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DETACHMENT ASHEVILLE NC OCT 83

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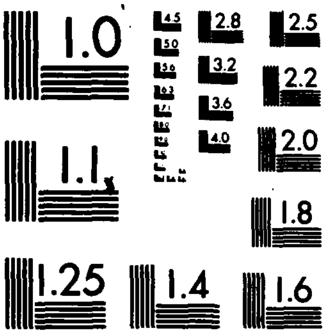

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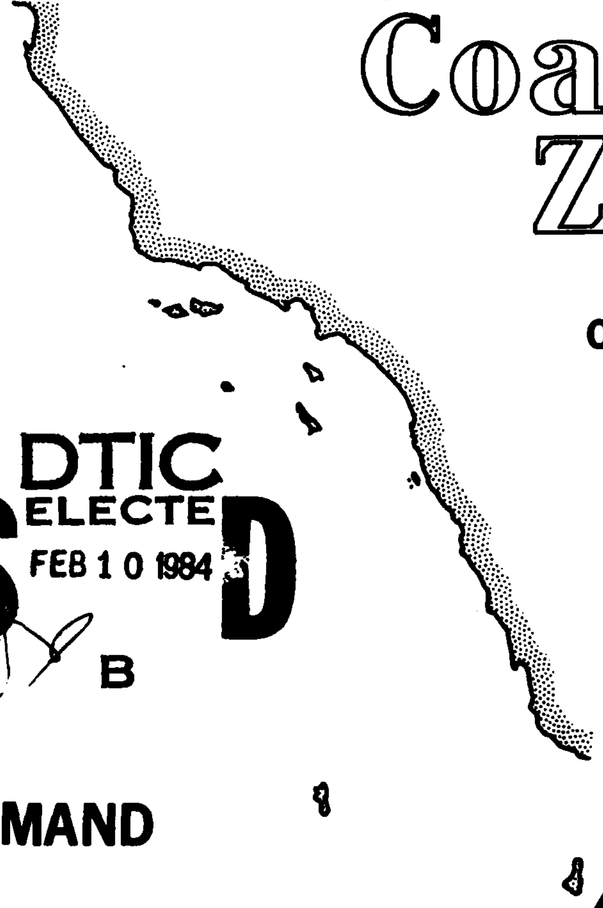
Climatic Study of the Southern California Operating Area

Near Coastal Zone



OCTOBER 1983

PREPARED BY
NAVAL OCEANOGRAPHY
COMMAND DETACHMENT,
ASHEVILLE, N.C.

PREPARED UNDER
COMMANDER
NAVAL OCEANOGRAPHY COMMAND
NSTL, MS 39529

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This climate study consists of monthly charts and tables of (1) clouds, (2) visibility-tables, (3) ceiling-visibility (mid range), (4) wind-visibility-cloudiness, (5) scalar mean wind speed, (6) wind speed <11 and ≥ 34 knots, (7) wind speed 11-21 and 22-33 knots, (8) air and sea temperature (9) surface wind roses, (10) wave height-isopleths, (11) wave height-tables, (12) surface currents (seasonal), and station climatic summaries.

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Climatic Study of the Southern California Operating Area

Near Coastal Zone

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The Southern California Operating Area near-coastal zone study was prepared by direction of the Commander, Naval Oceanography Command and the Official in Charge, Naval Oceanography Command Detachment, Asheville, North Carolina. Work was performed by the National Climatic Data Center (NCDC).

Geographical and Data Coverage

This study covers the southern California area (24°N to 37°N; 115°W to 125°W) with the greatest emphasis being placed on the marine areas (see Fig. 1). Surface marine statistics are presented on monthly charts in the form of graphs, tables and isopleth maps. Land station data appear graphically and in Station Climatic Summary tables in the last section of the publication. The marine data were machine plotted by one-degree quadrangle and then hand analyzed. The graphs and tables for the marine areas are also presented by one-degree quadrangles (visibility, wave heights, and wind roses). These graphs and tables represent the objective compilation of available data; the data were not adjusted for suspected biases (low observation count, heavy weighting of observations during a short time interval, biases in coding of observations from various source decks, etc.), and differences may be found when comparing the graphic data with isopleth analyses. The total number of observations for a given one-degree square should always be considered when interpreting the data, as there may be an insufficient number to permit representative statistics.

Just over one million surface marine observations were used in computing the statistics. These data, taken from NCDC's Tape Data Family 11 (TDF-11), were collected by ships of various registry traveling in the study area. Some observations were collected as early as 1854. Data for this study were obtained from the earliest available period through 1979. The bulk of the observations are from the last 30 years, which is significant because more recent observations contain more elements than pre-1948 reports. The density of observations is greatest along the major shipping routes; in this area major traffic moves north-south just off the coast, and along the Asian routes to and from Los Angeles and San Francisco.

The mean sea current charts were extracted from the Department of Transportation, Coast Guard Oceanographic Unit Technical Report 82-2, Pacific Area Current Charts.

Physical Features

In California, north of the Los Angeles Basin, basically two mountain ranges parallel the coast. The Coast Ranges on the west generally run no more than 50 miles from the sea to the crest of the mountains, while farther inland to the east run the Sierra Nevada. In between the southern extent of these two mountain ranges lies the San Joaquin Valley, the drainage basin that empties into San Francisco Bay. The melt water from the High Sierras has provided the necessary irrigation water to make the San Joaquin Valley a highly productive farm area.

In southern California there are a number of smaller mountain ranges. The San Gabriel and San Bernardino ranges are the most extensive and are basically located to the east and southeast of Los Angeles. South of the San Bernardino range lie the San Jacinto mountains and farther south, the Santa Rosa range. The Santa Ana range parallels the coast to the west of the San Bernardino and San Jacinto mountains.

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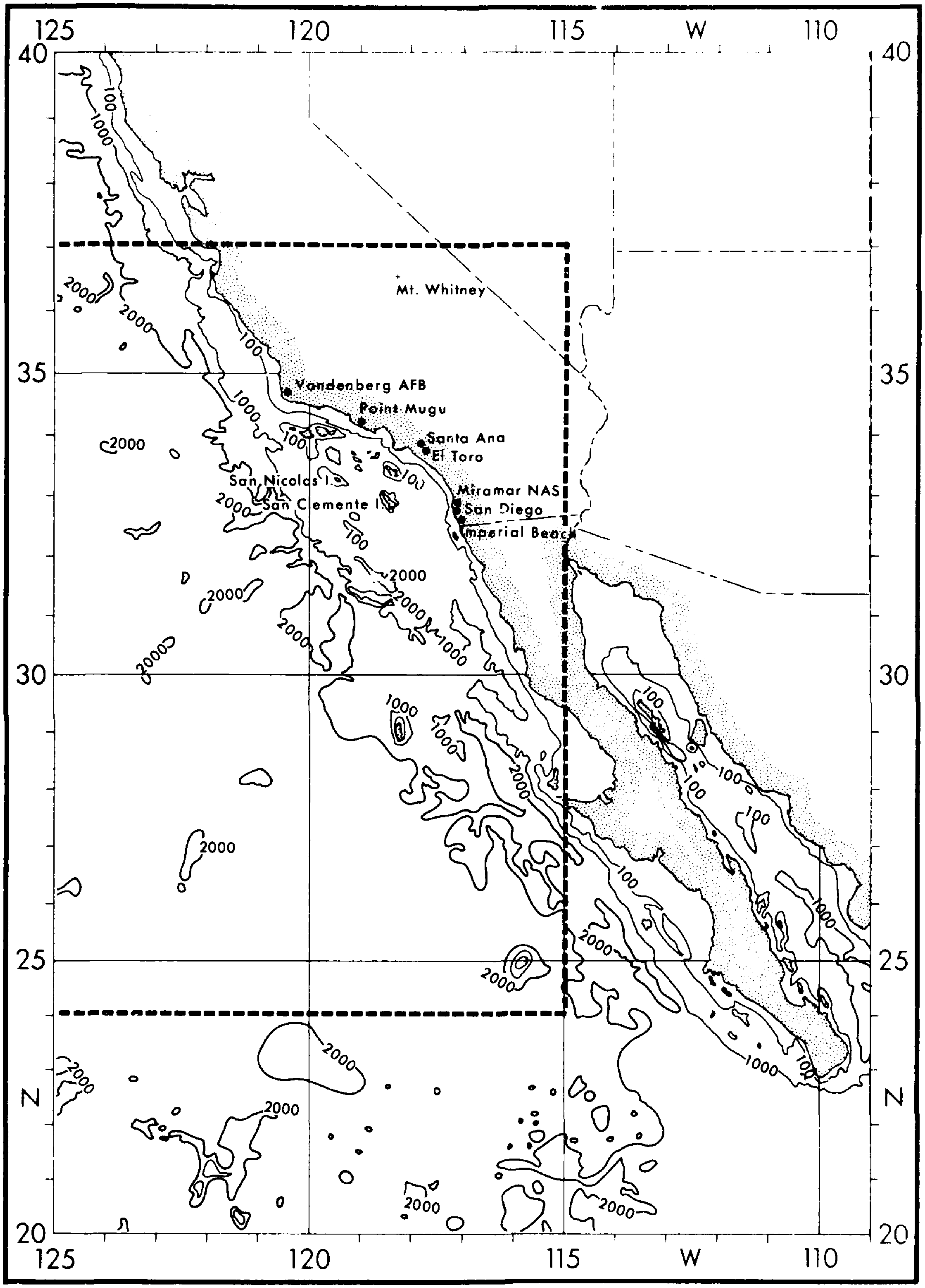

Fig. 1 Area map

To the east of the mountains in southern California lies the desert region which includes Death Valley (just east of the southern end of the Sierra Nevada). The lowest point in the U. S. is found at 282 feet below sea level in Death Valley, which is just 85 miles from the highest peak within the contiguous U. S., Mt. Whitney (southern end of the Sierra Nevada) at 14,494 feet above sea level.

The southern portion of this California Desert region is generally referred to as the Salton Sea - Sonoran Desert, with its northern portion designated as the Mohave Desert. East of the Santa Rosa mountains lies the Salton Sea Basin with the surface level of the lake below sea level. This region is a cut-off remnant of the Gulf of California. South of the lake lies the area which has become known as the Imperial Valley because irrigation has made it one of the most productive agricultural regions in the western United States. This region is sparsely settled with El Centro being the major population center.

The California coastline, unlike the Atlantic coast, does not have any extensive coastal plains but rather is characterized by miles of steep sea cliffs or rock terraces. Yet with this type of shoreline topography, none of the California bays, except for San Francisco Bay, provide a safe harbor for shipping. San Francisco Bay, however, happens to be one of the best harbors in the world.

The continental shelf off southern California extends westward for approximately 150 miles before reaching the escarpment (continental slope) that drops down to the deep ocean basin. This shelf differs from the gentle slope off Florida; instead of the smooth under-surface there are a number of islands protruding above the surface and a number of banks just below the surface (Shepard, 1963). Reference Fig. 1 for the depth contours.

A cold ocean current runs from north to south along the California coast. The associated upwelling is important to commercial fishing as it produces enough organic nutrients to support large stocks of commercially important fish. Changes in the large-scale atmospheric circulation offshore, in response to both thermal and wind forcing processes, may cause the near-shore current to alter its normal pattern and thus affect the fishing as well as the California climate (Nelson and Husby, 1983).

Climate

The southern California climate is best described as a Mediterranean-type climate where the summers are cool and the winters are warm, especially when compared to other locales of the same general latitude. Rainfall is seasonal with most of it falling during the winter. Both San Diego and Long Beach average near 10 inches of annual precipitation, most of it occurring between November and April. The remaining 6-month totals average less than one inch. See Fig. 5 for the monthly means of precipitation and temperature for selected locations. Thunderstorms occur but are rather rare; San Diego averages about 3 per year. The mountains to the east occasionally get a few more thunderstorms, but as indicated in Fig. 2 (mean number of annual thunderstorms), most of the western half of California get less than 5 per year. A large number of the summer monthly precipitation totals at San Diego show a trace but a rare tropical storm will sometimes move into the region and produce monthly values in excess of 2 inches. Heavy thunderstorms can also produce record rainfalls. On August 12, 1981, at Campo in San Diego County, a

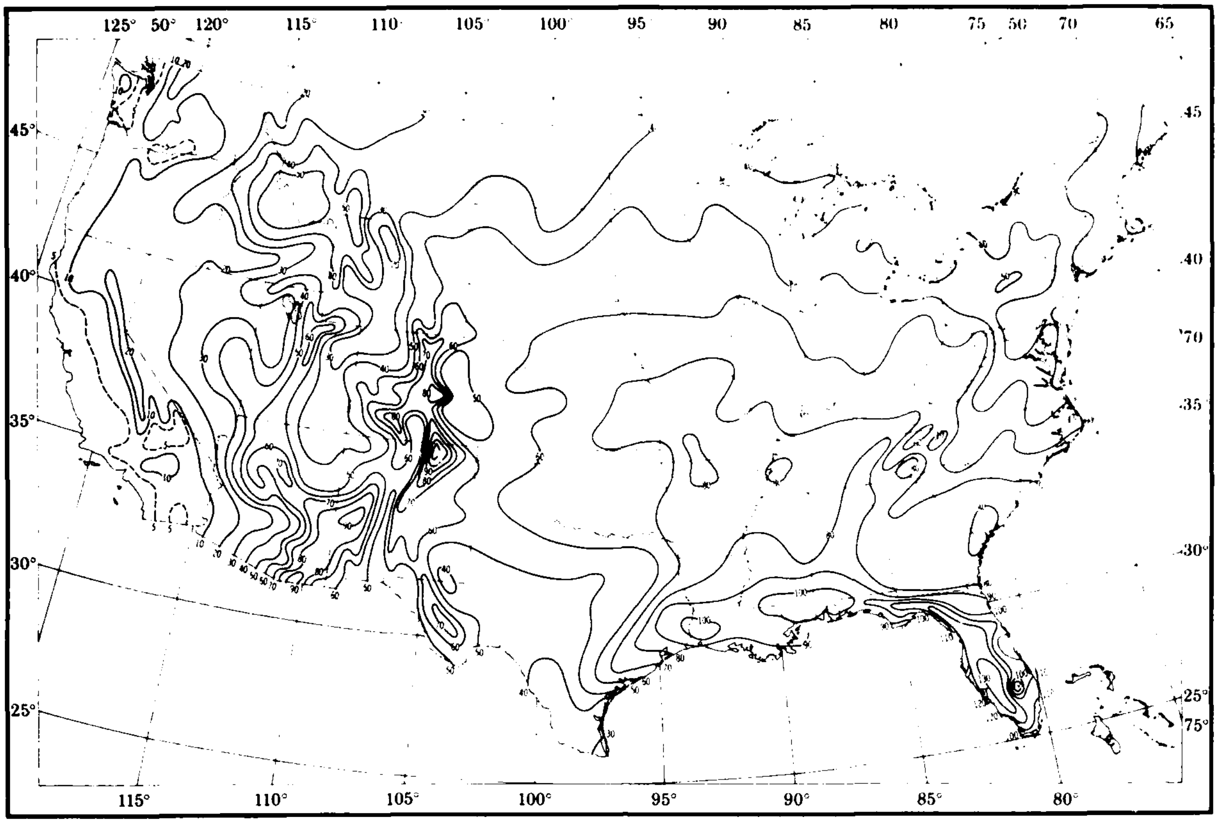

Fig. 2 Mean number of annual thunderstorms

thunderstorm rained 16.10 inches of which 11.50 inches fell in 80 minutes. In general the mountains of southern California receive between 30 and 40 inches per year, the coastal plains 10 to 15, and the desert regions 2 to 5 inches.

The dominant feature which controls the southern California weather is the semi-permanent North Pacific subtropical high. During summer, the high becomes more intense and moves farther north thereby restricting the few storms that develop during this season to storm tracks far to the north. With winter, the subtropical high is less intense and retreats somewhat southward and, thus, allows more storm tracks to penetrate into southern California. See Fig. 3 for the January and July mean pressure pattern.

Southern California coastal areas are occasionally affected, primarily during the fall and winter, by a foehn-type wind known as a Santa Ana. The dry northeasterly winds typically have speeds of 15 to 25 mph and relative humidities of 30 percent or less, and the accompanying temperatures are generally at least 5°F warmer than the monthly average (de Violini, 1974). The effects of these winds have been felt between Santa Barbara and San Diego and as far east as the mountains and as far west as 50 miles seaward. In areas downwind of canyons and mountain passes these Santa Ana winds can be especially severe. For example, on Dec. 20, 1977, Santa Ana winds of up to 90 mph roared through San Diego County downing power lines, causing serious crop damage, and fanning brush fires. The strong winds snapped a power pole on Vandenberg AFB and started a fire that swept through more than 10,000 acres. The tragic fire claimed the lives of the Base Commander and two other base officials. In another example, the San Diego WSO reported easterly winds of 60-70 mph in the pass east of Alpine on Jan. 9, 1982.

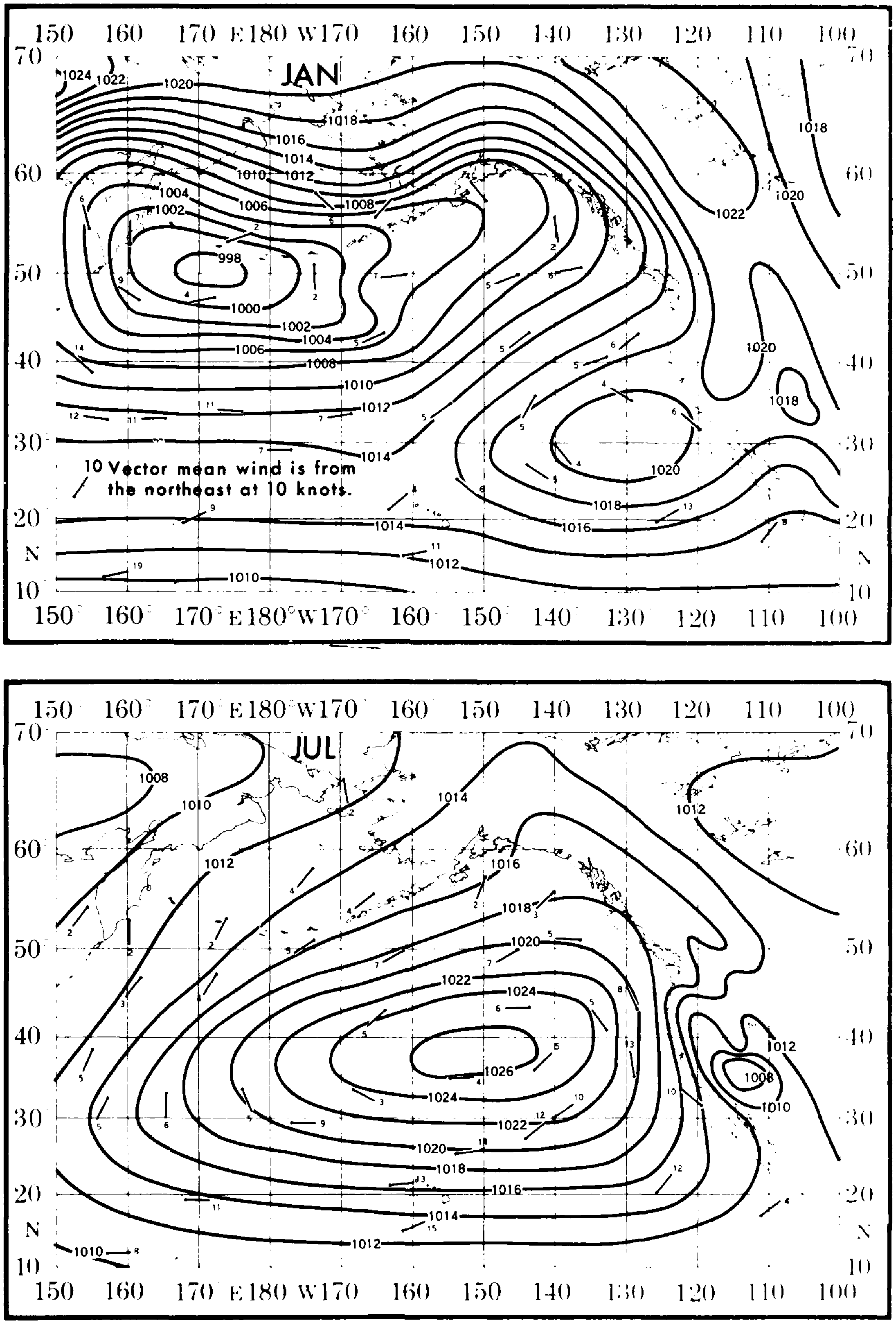

Fig. 3 Mean sea-level pressure (mbs) and vector mean winds (kts)

In a majority of instances the Santa Ana winds will follow the passage of a cold front. They may start within a few minutes of passage or up to 48 hours afterwards. Behind the front a large mass of cold air will push in over the Great Basin. As the high continues to build over this region, nighttime cooling helps to intensify the surface pressure until this cold dense air begins to push through the mountain valleys and continues on its journey to the sea. As the air descends it is heated by compression to generally between 20 and 25°F by the time it reaches sea level. The intensity and duration of the Santa Ana winds depends upon the pressure gradient between the Great Basin and southern California, the strength of the northerly winds aloft, and the temperature of the cold high pressure air mass. As the air descends and is warmed through compression, it is capable of taking on much more water vapor; for this reason the relative humidity is low during a Santa Ana.

Dangers to aircraft caused by Santa Ana winds are low level turbulence as well as occasional moderate to severe turbulence aloft. For vehicular traffic the hazards are greatest for those with large surface areas, but any vehicle can be blown into oncoming traffic or off the side of the road. Large signs, billboards, and trees are occasionally blown over and large windows blown out. But the greatest hazard is the drying effect on the grass and bushes of southern California which increases the likelihood of fires. The worst fires of this type in the state have all occurred under conditions of Santa Ana winds.

For example, in September 1970, from the 25th through the 29th, Santa Ana winds brought high temperatures, low humidities, and strong winds thereby creating an explosive fire potential. More than 500,000 acres were burned-over in Los Angeles, Ventura, Kern, Orange, San Diego, and San Bernardino counties. Some 500 homes were destroyed, along with more than 500 other structures, including at least four churches. Also, 20 firemen were injured.

The combination of the cold ocean current and the semi-permanent subtropical high produces stratus on nearly a daily basis during the summer along the southern California coast. An inversion is created as long as the cold layer of marine air is maintained beneath the warm dry air of the subtropical high. The stratus clouds generally form during the night and early morning and frequently push into the coastal valleys and foothills. It is less likely that the clouds will penetrate farther inland. If so, they will arrive later, and will burn off earlier. Most of the coastal areas clear up during the morning giving generally comfortable sunny afternoons. Fog does form occasionally during the summer but is much more frequent during the winter season. Early morning fog forms mostly because of radiational cooling and cool air drainage from the nearby hills.

Rarely a tropical storm will move into southern California bringing mostly heavy rains. Fig. 4 shows the annual 12-hourly movements of tropical cyclone centers with tropical storm intensity or greater (wind speed estimated $\geq$ 34 knots). For example, during Sept. 10-11, 1976, the worst tropical storm in 37 years moved into southern California causing record rains and tremendous crop damage. The hardest hit area was the small desert community of Ocatillo in Imperial County. Flood waters tore homes from their foundations and left nearly 70 percent of the town buried in sand which measured up to 10 feet in depth.

In just under a year the unlikely event of a second tropical storm occurred in the same general region of southern California. On Aug. 17, 1977, tropical storm Doreen dumped 4.5 inches of rain within several hours in the

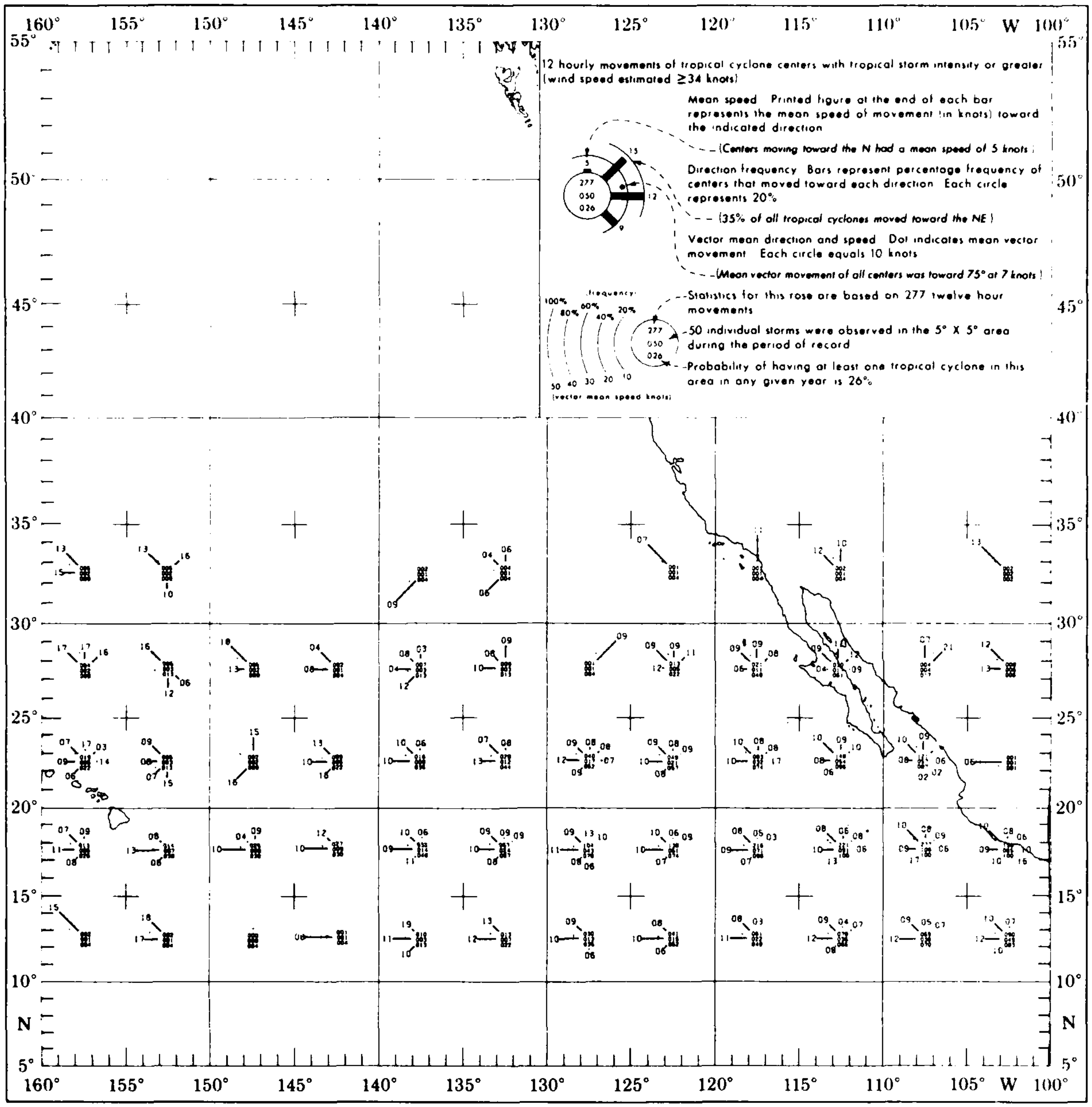

Fig. 4 Annual 12 hourly movements of tropical cyclone centers with tropical storm intensity or greater

Salton Sea area of Imperial County, California. The heavy rainfall flooded 300 homes, causing 4 million dollars in property damage and 9 million dollars in crop damage.

Tornado sightings are not unusual for southern California, however, they are not of the destructive intensity as those reported in the Midwest. When conditions are unstable enough to produce the tornado, development is rarely sufficient to permit them to live very long. In reviewing the Storm Data publication from 1959 through 1982 for the southern California area, one notices numerous reports of funnel cloud and waterspout sightings and some reports of tornadoes touching down. In most cases only minor damage was reported. For example, on Dec. 18, 1978, a waterspout developed a mile off Oceanside, CA before moving about 3/4 mile inland through the business

district. It tore off parts of one roof, downed several trees, broke glass, and generally scattered debris along its path. A month later in San Diego, on Jan. 18, 1979, a tornado touched down, traveled 100 yards before lifting off, and touched down again 1/2 mile farther east where it again traveled 100 yards before lifting off and dissipating. In both examples it generally only broke glass and scattered debris.

In southern California the temperatures are very hospitable, especially along the coastal regions. A small daily temperature range, in conjunction with a comparatively small annual temperature range, has helped to make the southern California coastal region a major population center. For example, at San Diego the highest monthly mean daily maximum, 77°F, occurs in August. For the same month the mean daily minimum runs a very comfortable 64°F. Monthly mean temperatures at San Diego range from 55°F in January to 71°F in August. Mean daily maximum and minimum temperatures for January run 65°F and 46°F, respectively. Between 1941 and 1981 the record highest temperature was 111°F (Sep. 1963) and the lowest 29°F (Jan. 1949). As one moves inland away from the marine influence the temperature variations increase. For example, El Centro in the Imperial Valley the normal maximum and minimum temperature for January are 69°F and 38°F, and for July 108°F and 74°F, respectively. However, these temperatures are conducive to a very equable climatic regime. Fig. 5 presents the monthly means of air temperature and precipitation for selected stations. More detail can be obtained from the Station Climatic Summaries in the last section of this publication.

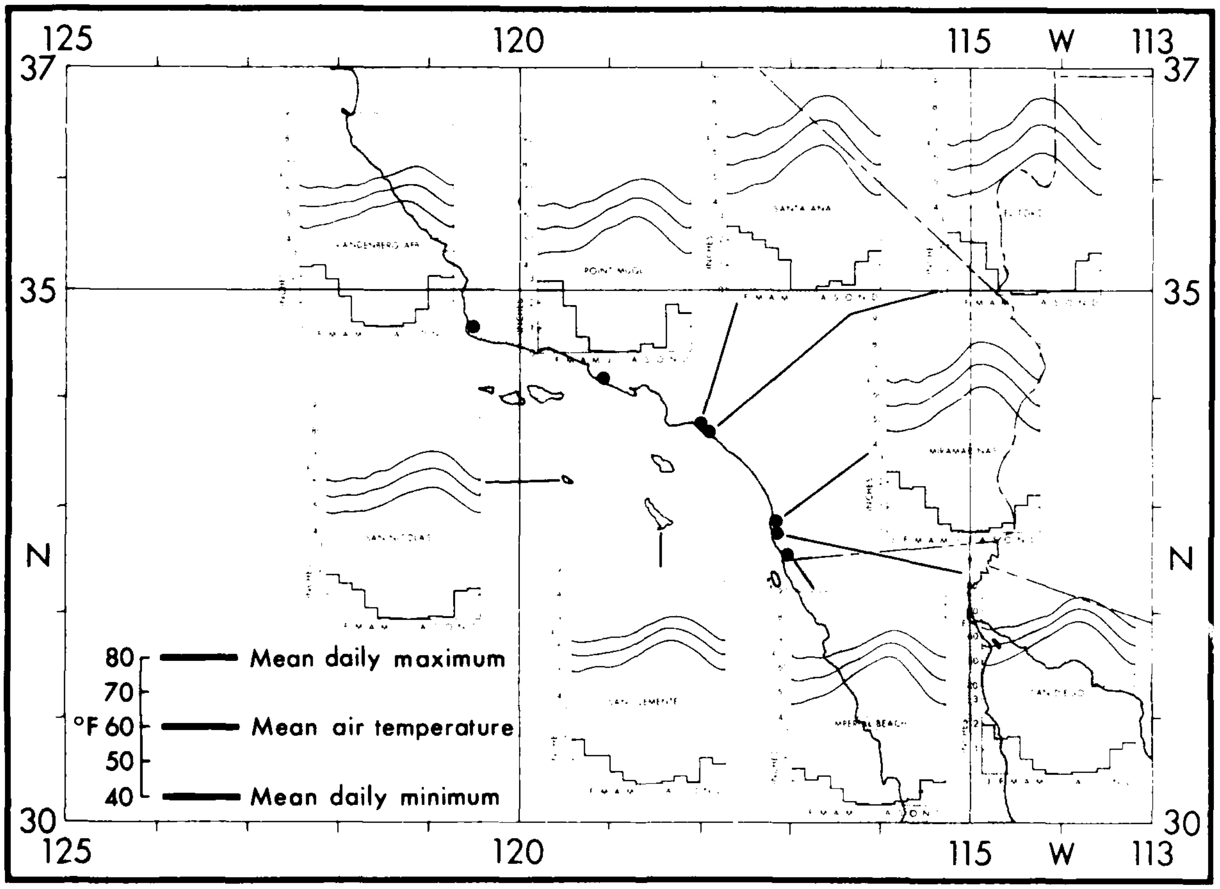

Fig 5 Monthly means of air temperature and precipitation

Marine Climatological Elements

Precipitation

Of the elements recorded in the marine data base, precipitation is one of those most subject to error in both the way it is observed and the way it is interpreted. In many areas of the world, especially in more recent years, ships try to avoid foul weather and thus bias the data towards fair weather.

The percent frequency of present weather observations reporting precipitation reaches a maximum during the winter months and minimum during the summer as previously discussed pertaining to land station data. During January the percent frequency of precipitation over the southern California operating marine area ranges from less than 3 percent off Baja, California, to 10 percent at Monterey Bay. For the summer season frequencies run from less than 1 to 3 percent. The pattern shows slightly higher occurrences seaward. Thunderstorms occur so infrequently that these charts were not included in this publication. Fig. 2 shows fewer than 5 thunderstorms a year being reported at most land stations throughout the coastal regions of southern California, and based on the marine observations even fewer occur at sea.

Tropical Cyclones

Tropical cyclones are not much of a menace to the Southern California Operating Area as indicated by the tropical cyclone rose (Fig. 4). However, south of Baja lies the world's most concentrated Tropical Cyclone area; the average annual number of tropical cyclones is about six per five-degree square (Fig. 6).

Air Temperature

Air temperature is one of the elements most frequently observed by mariners. Due to instrument exposure on many ships, the heating effects of a ship's structure tend to produce readings that are higher than the actual ambient air temperature. This doesn't appear to be as much of a problem in the Southern California Operating Area as it is in the tropical regions of the world.

Isotherm patterns for air temperature are relatively zonal during the winter season averaging between the mid-fifties at the northern end of the study area to the mid-sixties at the southern end. The winter pattern shows little influence of the cold California coastal current. By spring, however, the isotherms begin to follow along the path of the current showing its cooling effects relative to the areas on either side. By September, the warmest month, mean temperatures range from 60°F near Monterey Bay to the low seventies off Baja and across the southern end of the study area. At 33°N, between San Diego and Oceanside, mean temperatures in September run from 68°F just off the coast to under 65°F just west of San Clemente Island, showing the effects of the upwelling.

Sea Surface Temperature

Sea surface temperatures are recorded with a fairly high frequency in marine observations. Two principal methods for sampling are used: intake

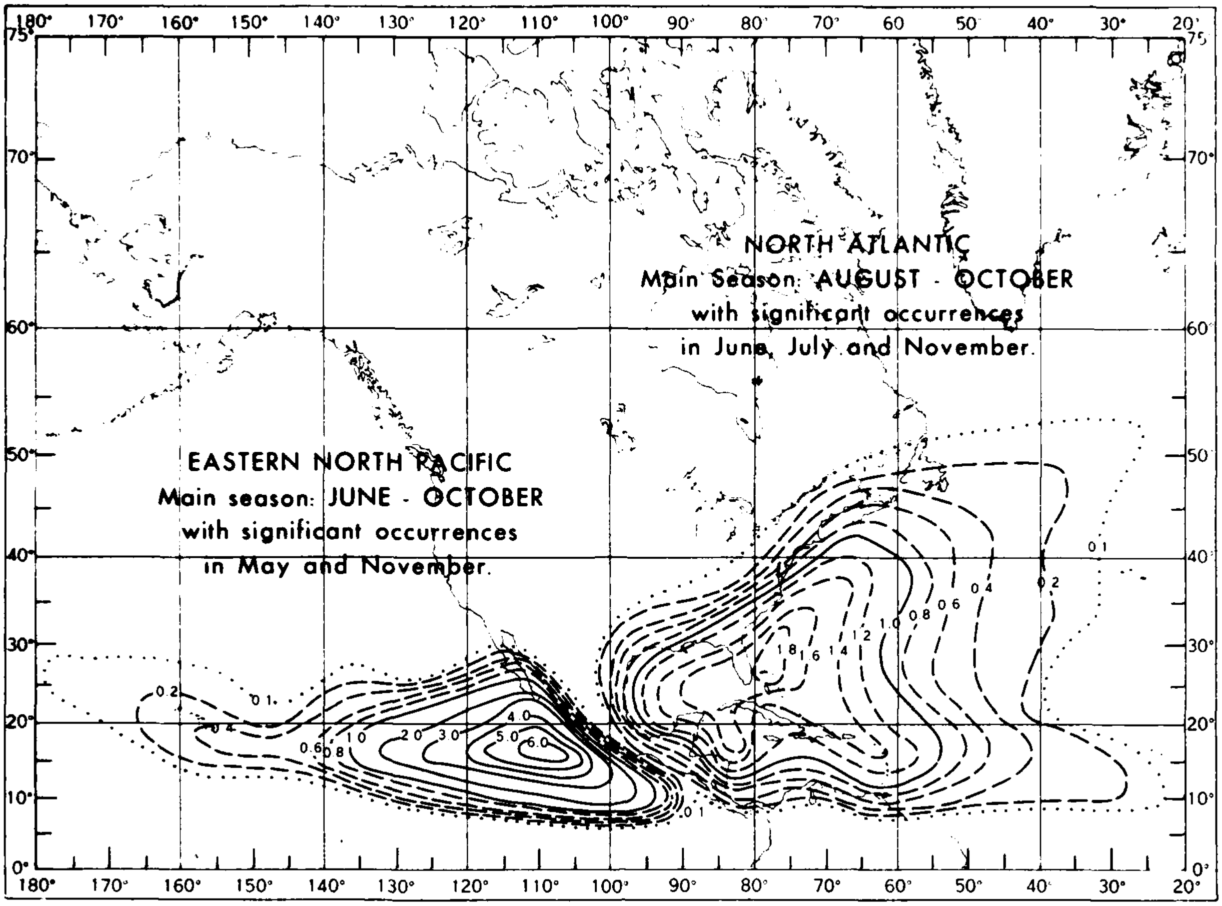

Fig. 6 The average number of tropical cyclones per 5° square per year

thermometers and buckets. Even though the two systems can produce slightly different results, the data may be used with considerable confidence.

Mean sea temperature isotherm patterns are very similar to those of air temperature. The sea temperature isotherms illustrate the cold California current a little more than those of air temperature during the winter but the isotherms are generally still fairly zonal. Summertime patterns, however, clearly depict the cold current. Mean sea temperatures during February, the coldest month, range from 54°F near Monterey Bay to 66°F at the southern extent of the study area. August brings the warmest sea temperatures with means ranging from just under 59°F in Monterey Bay to over 75°F in the southeastern-most portion of the study area. A warm region lies off the coast of San Diego, averaging 69°F, while farther west at the same latitude temperatures drop off to near 63°F.

Surface Winds

The surface wind is one of the most commonly observed elements. Many of the observations from the NCDC data base are visual observations based on the roughness of the sea. In recent years more ships acquired anemometers and reported measured winds. Prior to 1963 many of the wind speeds were recorded in the Beaufort scale; however, such estimates have proven to be quite reliable

and can be used with a high degree of confidence. Five sets of wind speed isopleths are presented: mean scalar speed, the percent frequency of winds less than 11 knots, 11 to 21 knots, 22 to 33 knots, and greater than or equal to 34 knots. Also included are wind roses by one-degree square.

Gale force winds ($\geq$ 34 knots) occur less than 5 percent of the time, based on the marine observations taken within the Southern California Operating Area. Strong winds occasionally occur with a cold frontal passage or during a Santa Ana. With cold fronts not being that frequent and the Santa Ana winds only rarely reaching as far as 50 miles out to sea, the mariner rarely observes strong winds within this area. The sea breeze effect can be rather strong on land during the day because of the strong differential heating between the desert regions and the sea. The opposite effect, the land breeze, is not as strong over the sea at night since the differential heating is not nearly as strong. Both Santa Ana winds and the land breeze are near-coastal phenomena; therefore, neither significantly effect the wind statistics for a large portion of the Southern California Operating Area.

The wind regime across this region varies little from month-to-month or season-to-season. Mean scalar winds from Los Angeles to San Diego average 7 to 10 knots throughout the year. Slightly stronger winds (10-15 knots) are encountered along the coast north of Point Arguello. West of the Channel Islands, monthly scalar mean wind speeds are from 10 to 16 knots.

Wind speeds from 11 to 21 knots generally occur 40 to 50 percent of the time over the open water. They are less frequent east of the Channel Islands where frequencies run 15 to 30 percent.

Higher threshold winds (22-33 kts) are most frequent during March and April, occurring more than 5 percent of the time, except in the Gulf of Santa Catalina. Frequencies as high as 15 to 25 percent are generally found in the regions to the west and northwest of the Channel Islands.

Visibility

Visibilities are difficult to measure at sea because of the lack of reference points. Climatically, many low visibility observations are probably missed because the mate is too busy with other duties (fair weather bias). However, the coarseness of the visibility code intervals tends to minimize the problem, permitting the summarized data to be relatively consistent. The visibility tables that are presented by one-degree square show that the open ocean areas have a high frequency of good visibilities. In all months, frequencies for 5 miles or better run 90 percent or greater for the open sea. For the near coastal-zone frequencies for 5 miles or better generally run near 70 percent tc 80 percent during the summer and near 90 percent during the winter, just slightly less than the open sea winter visibilities. These visibility table figures are somewhat contradictory to the observations taken at Los Angeles and San Diego. Although fog is observed every month it is least observed during the summer with the fall and winter being the foggiest. This is not the pattern one sees when checking the visibility tables. This is most probably due to two reasons: (1) ship personnel are generally very busy with other tasks when entering and leaving port; therefore, weather observations are generally not taken in close to shore, and (2) if the weather is poor, for instance in fog, the ship will delay its departure or entrance into a congested port (fair weather bias).

Clouds

A survey of the cloud data (total and low cloud amounts) within the marine data base shows a number of total clouds reports significantly greater than low cloud amounts. This is because many of the early marine observations contain only total cloud amounts. For the two presentations (total cloud amount $\leq$ 2/8 and low cloud amounts $\geq$ 5/8) only those observations reporting both total and low cloud amounts were summarized. This helps eliminate problems introduced as a result of different size data bases (N-count). The use of satellite data helps bolster confidence in the total cloud analyses because they show fairly close agreement with those summaries (U. S. Department of Commerce and United States Air Force, 1971).

During the winter months, the percent frequency of low clouds greater than or equal to 5 oktas is just under 30 percent along the coast and 50 to 60 percent out over the open water. In the summer, they increase to near 60 percent along the coast and 70 to 80 percent over the open water.

Total clouds less than or equal to 2 oktas generally run 40 to 50 percent along the coast during the winter and 20 to 30 percent in the summer. Offshore, over open water, frequencies are usually found in the 15 to 30 percent range during the winter and in the 10 to 20 percent range during summer. For more detail one should make use of the isopleth charts.

Ceiling and Visibility

Aircraft-type ceilings are not available from marine observations. The ceilings are estimated from the height of the lowest cloud when low clouds cover more than half the sky. When the sky is totally obscured by rain, fog, dust, or other phenomena, the total obscuration is considered a ceiling with a height of zero. Mid-range ceiling and visibility charts (ceiling less than 1000 feet and/or visibility less than 5 nautical miles; ceiling less than 8000 feet and/or visibility less than 10 nautical miles) and low range ceiling and visibility charts (ceilings less than 300 feet and/or visibility less than 1 nautical mile; ceiling less than 600 feet and/or visibility less than 2 nautical miles) are presented. Ceilings less than 8000 feet and/or visibilities less than 10 nautical miles are observed approximately 50 percent of the time during the winter and near 80 percent during the summer. In comparing the next threshold (<1000 feet and/or 5 nautical miles), frequencies average 15 to 20 percent during the winter and 20 to 30 percent during the summer. In the low range, there are only slight differences between the two low range threshold categories. When conditions deteriorate enough to fall into the higher of the low categories (< 600 feet and/or 2 nautical miles) they often continue their deterioration until they reach the lower category (< 300 feet and/or 1 nautical mile). During the winter, observations fall into the low range 5 to 7 percent of the time and in the summer 15 to 20 percent of the time. Usually only a few percentage points separate the two low range categories.

Wave Heights

Wave heights have been recorded in a consistent quantitative code only since the late 1940's. The reluctance of many observers to take wave observations in the earlier years and the difficulty in estimating waves, especially in confused seas, make wave observations one of the least commonly observed elements. They are also subject to biases. (Quayle, 1980) Generally

the heights are too low, the periods too short, and the sea-swell discrimination poor. The data in this study have not been adjusted for the suspected biases other than being processed through a quality control procedure where an internal check was made between wind speed and sea height. The data were also arrayed and apparent erroneous outliers were deleted in both the sea and swell data. Wave height presentations include isopleth maps showing percent frequencies of wave heights ≥ 3 feet and ≥ 8 feet. In addition, wave height tables by one- degree quadrangle show frequencies by six wave height categories. In these presentations, the higher of the sea or swell was selected for summarization. If heights are equal, the wave with the longer period is selected.

As with the wind regime, the mean monthly wave regime has little annual variation. Frequencies of wave heights of 3 feet or greater are observed 80 to 90 percent of the time in the open water and 40 to 50 percent of the time in the Gulf of Santa Catalina. For wave heights of 8 feet or greater there is a small decrease in the number reported during the summer in comparison to winter. Percent frequencies of wave heights ≥ 8 feet in general run from under 5 percent in the Gulf of Santa Catalina to 10 to 20 percent west and south of the Channel Islands and 25 to 35 percent northwest of Point Arguello.

Ocean Currents

The mean sea current charts, extracted from the Coast Guard Oceanographic Unit Technical Report 82-2, give mean geostropic currents computed from dynamic height anomalies and contain none of the wind current components that are inherent in the set and drift method of deriving sea current data. If one wishes to make drift forecasts the sea currents must be combined vectorially with a wind current calculation for the time and area of interest. Local wind current data can be calculated based on a method found in the Oceanographic Unit Technical Report 78-2 (U. S. Coast Guard Oceanographic Unit, Building 159-E Navy Yard Annex, Washington, D.C. 20593).

Summary

In general, the weather across the Southern California Operating Area is relatively equable. The unpleasant variations are generally the coastal fog and rains during fall and winter and the low clouds and air pollution during spring and summer. However, rare anomalies, such as the Santa Ana winds, thunderstorms, tornadoes, or tropical storms do occur. An anomalous winter, such as the 82-83 season where a succession of Pacific storms continually battered the west coast with strong winds, heavy rains and high seas (which produced some of the worst weather-related damage in history) is always a possibility. This anomalous west coast winter might possibly be related to the El Nino which began in 1982 and was at its peak during the 82-83 Northern Hemisphere winter. Correlations between indices of the El Nino and certain North American meteorological variables are statistically significant for the Northern Hemisphere winter (Philander, 1983).

An area such as southern California, which is renowned for its pleasant and congenial climate, can have weather events that are within the normal range of activity but which have a high potential for devastation. Climatological summaries, such as this, help delineate those possibilities.

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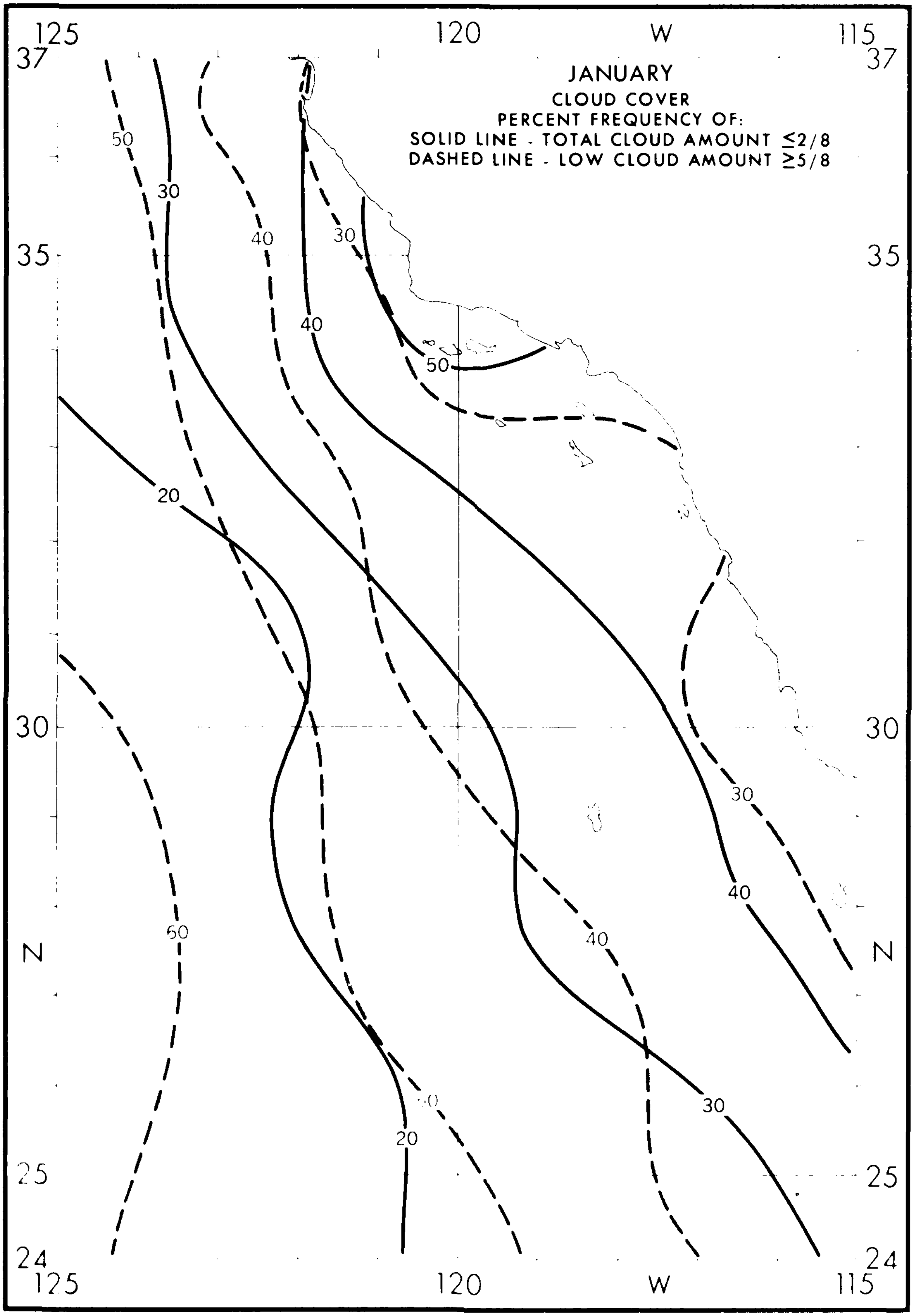
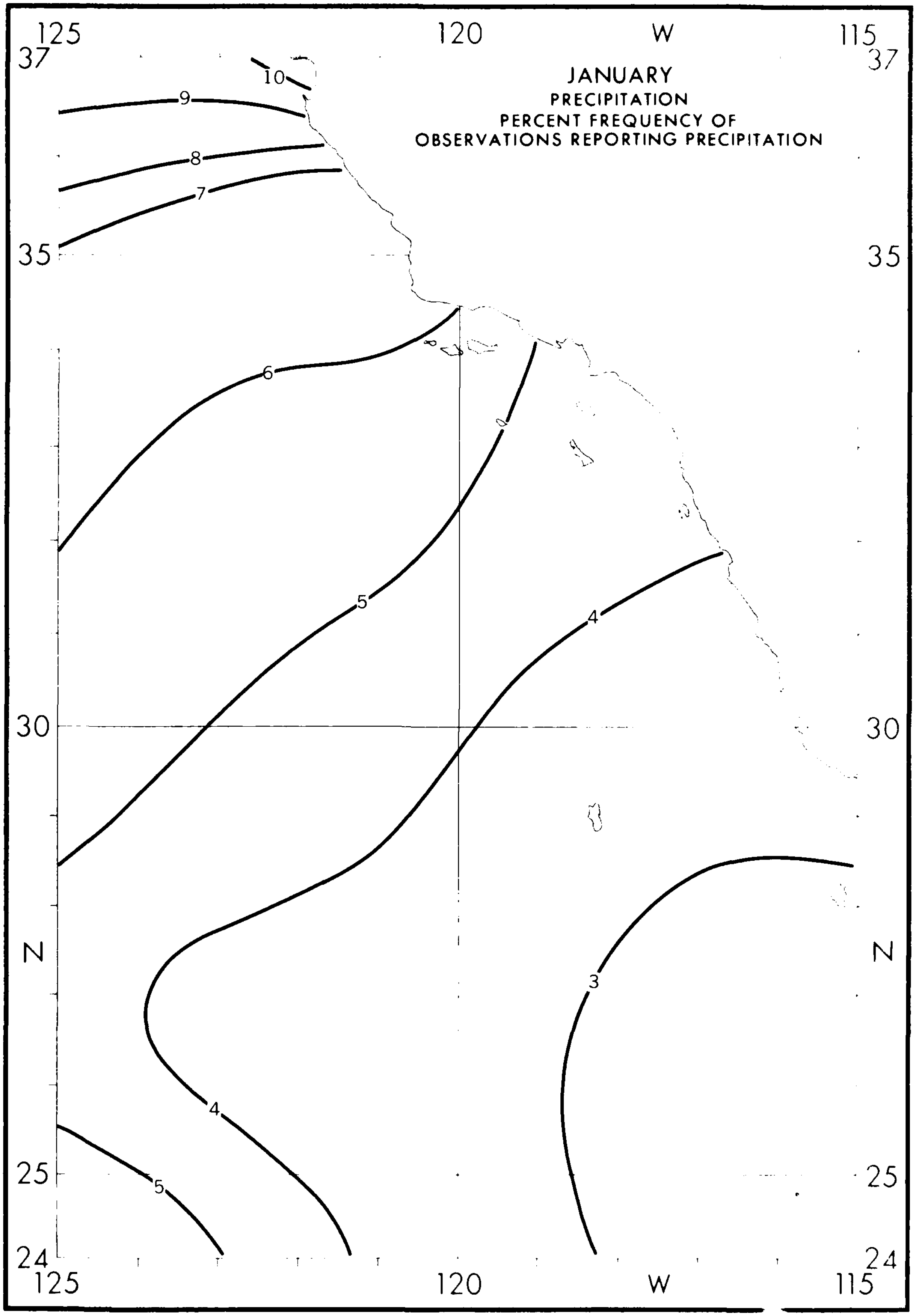
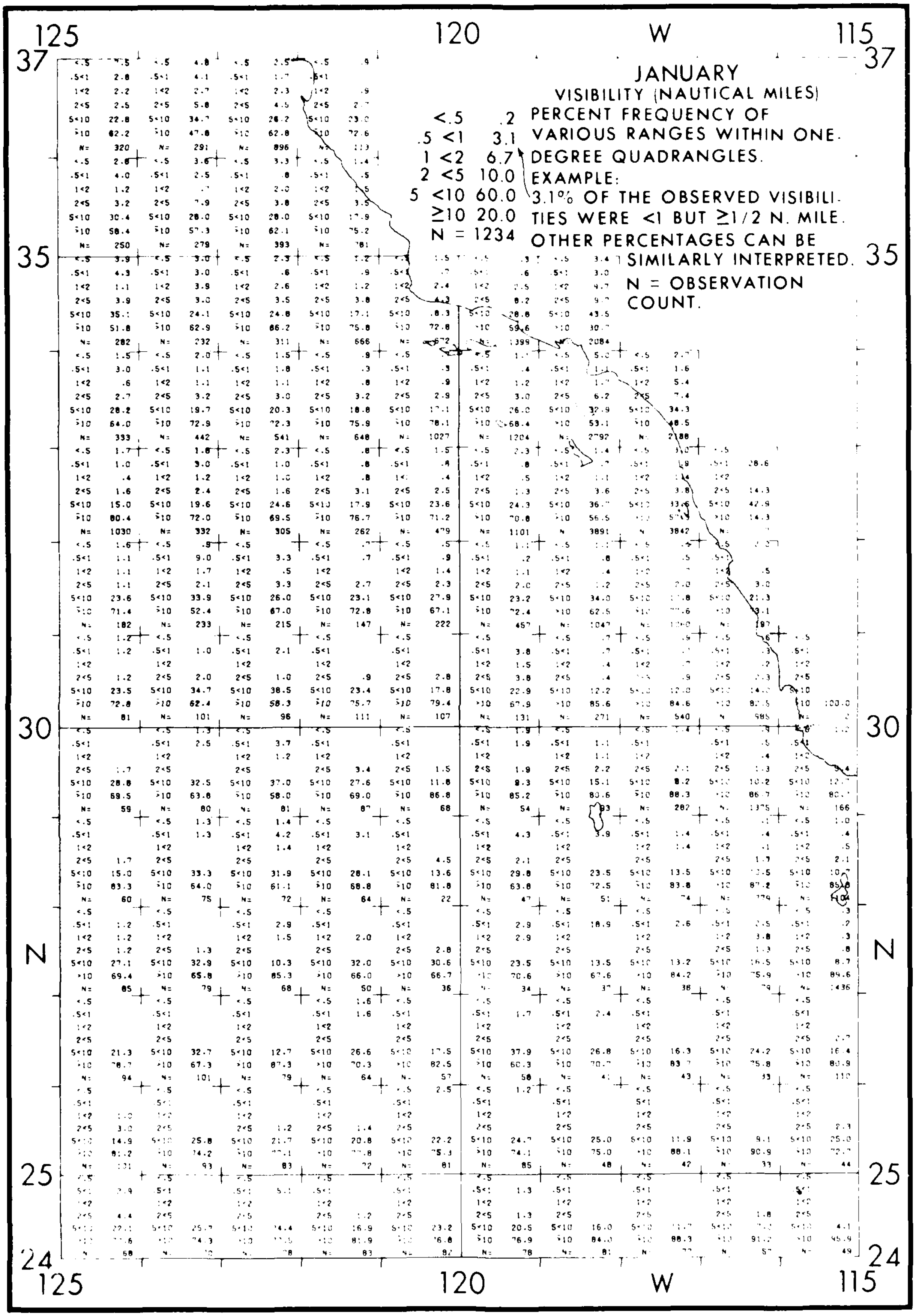
INDEX

MONTH \ ELEMENT	CLOUDS	PRECIPITATION	VISIBILITY-TABLES	CEILING-VISIBILITY (mid range)	CEILING-VISIBILITY (low range)	WIND-VISIBILITY-CLOUDINESS	SCALAR MEAN WIND SPEED	WIND SPEED <11 and ≥34 knots	WIND SPEED 11-21 and 22-33 knots	SURFACE WIND ROSES	AIR AND SEA TEMPERATURE	WAVE HEIGHT-ISOPLETHS	WAVE HEIGHT-TABLES	SURFACE CURRENTS (monthly)	STATION CLIMATIC SUMMARIES
JANUARY	2	3	4	5	6	7	8	9	10	11	12	13	14	158	182 THUR 190
FEBRUARY	15	16	17	18	19	20	21	22	23	24	25	26	27	160	
MARCH	28	29	30	31	32	33	34	35	36	37	38	39	40	162	
APRIL	41	42	43	44	45	46	47	48	49	50	51	52	53	164	
MAY	54	55	56	57	58	59	60	61	62	63	64	65	66	166	
JUNE	67	68	69	70	71	72	73	74	75	76	77	78	79	168	
JULY	80	81	82	83	84	85	86	87	88	89	90	91	92	170	
AUGUST	93	94	95	96	97	98	99	100	101	102	103	104	105	172	
SEPTEMBER	106	107	108	109	110	111	112	113	114	115	116	117	118	174	
OCTOBER	119	120	121	122	123	124	125	126	127	128	129	130	131	176	
NOVEMBER	132	133	134	135	136	137	138	139	140	141	142	143	144	178	
DECEMBER	145	146	147	148	149	150	151	152	153	154	155	156	157	180	


JANUARY
CLOUD COVER
PERCENT FREQUENCY OF:
SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8
DASHED LINE - LOW CLOUD AMOUNT ≥5/8


JANUARY
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
125
120
W
115
37
35
30
N
25
24
10
9
8
7
6
5
4
3



JANUARY

VISIBILITY (NAUTICAL MILES)

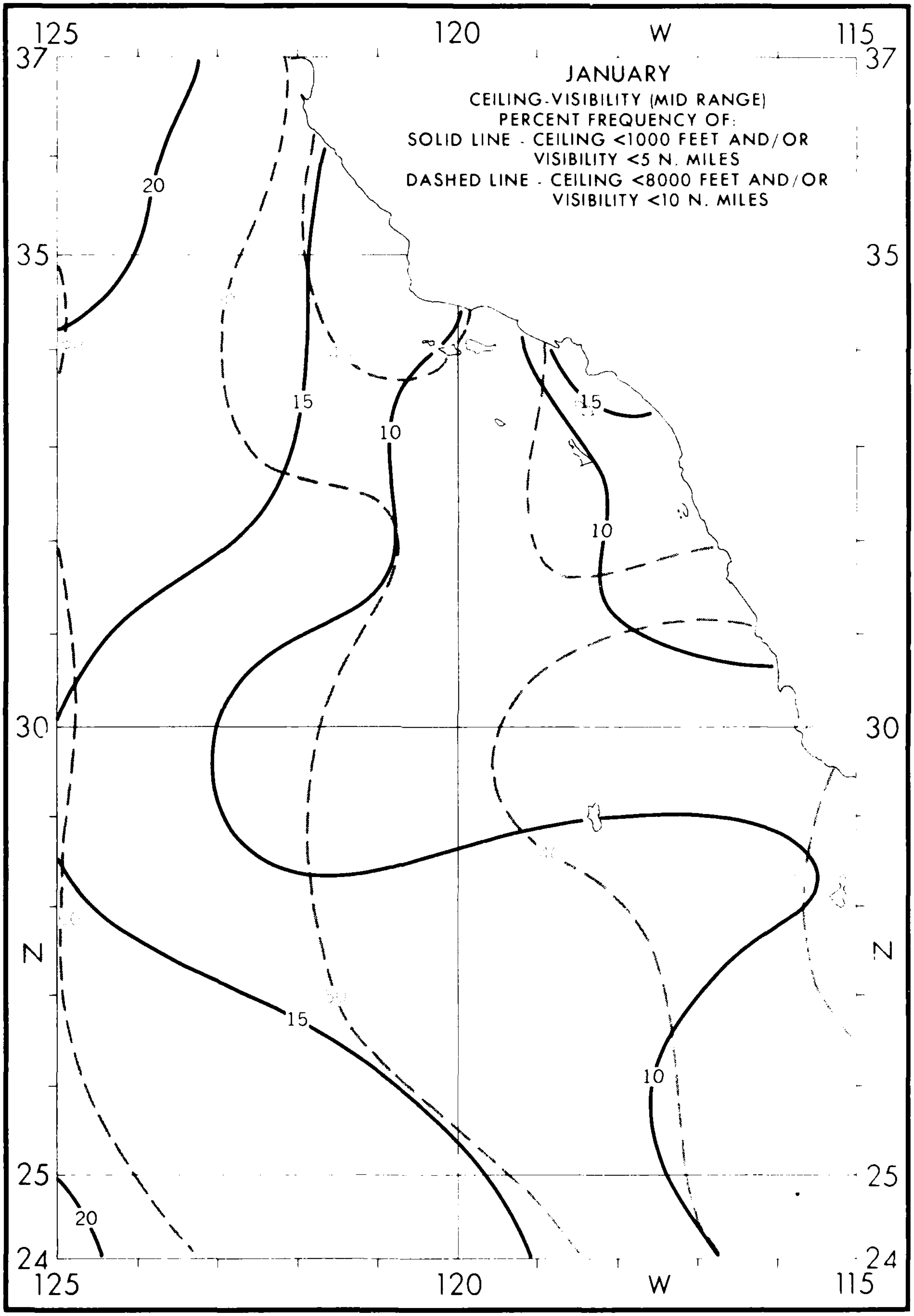
PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

EXAMPLE:

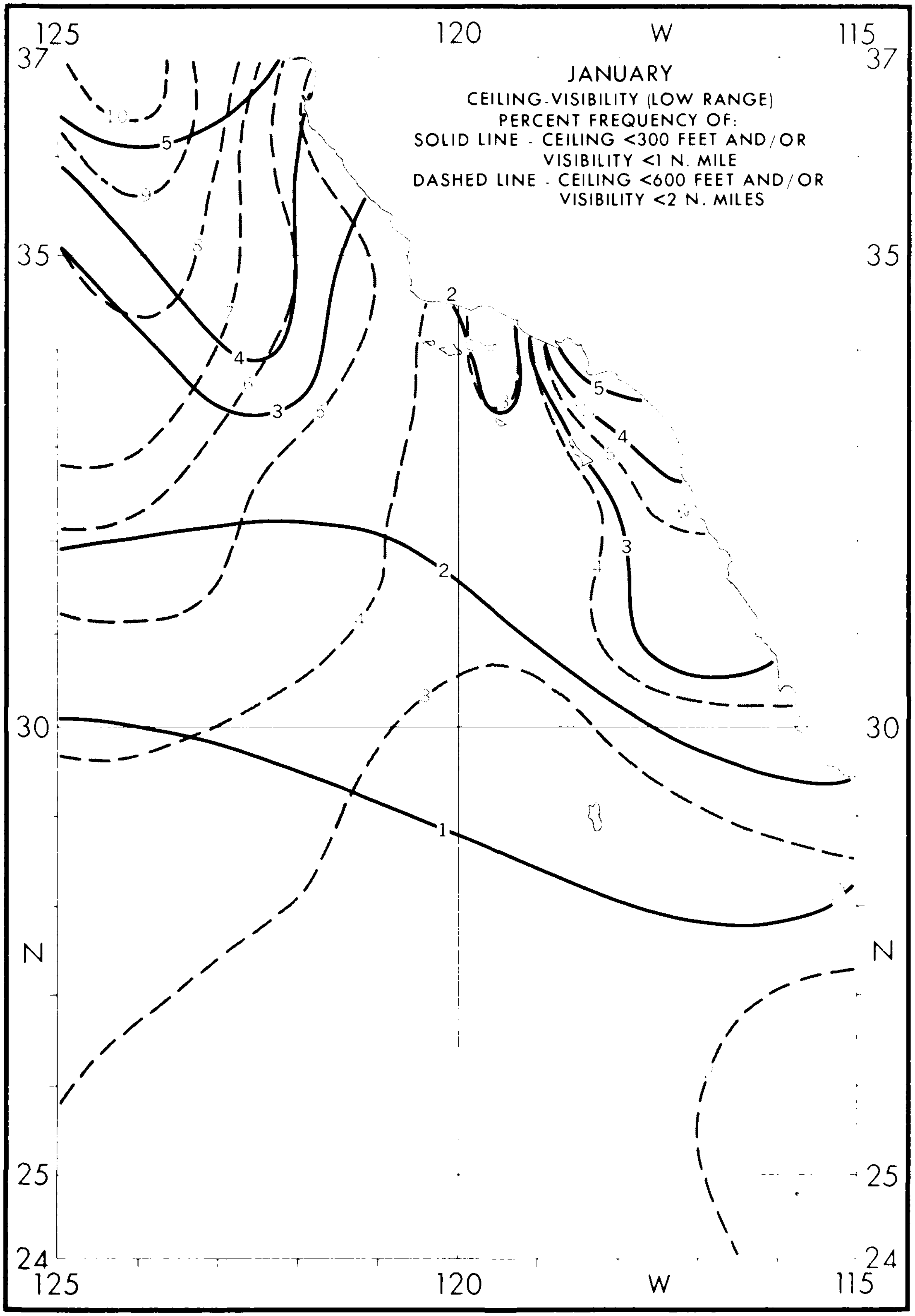
<.5	.2
.5 <1	3.1
1 <2	6.7
2 <5	10.0
5 <10	60.0
≥10	20.0
N =	1234

3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.

N = OBSERVATION COUNT.

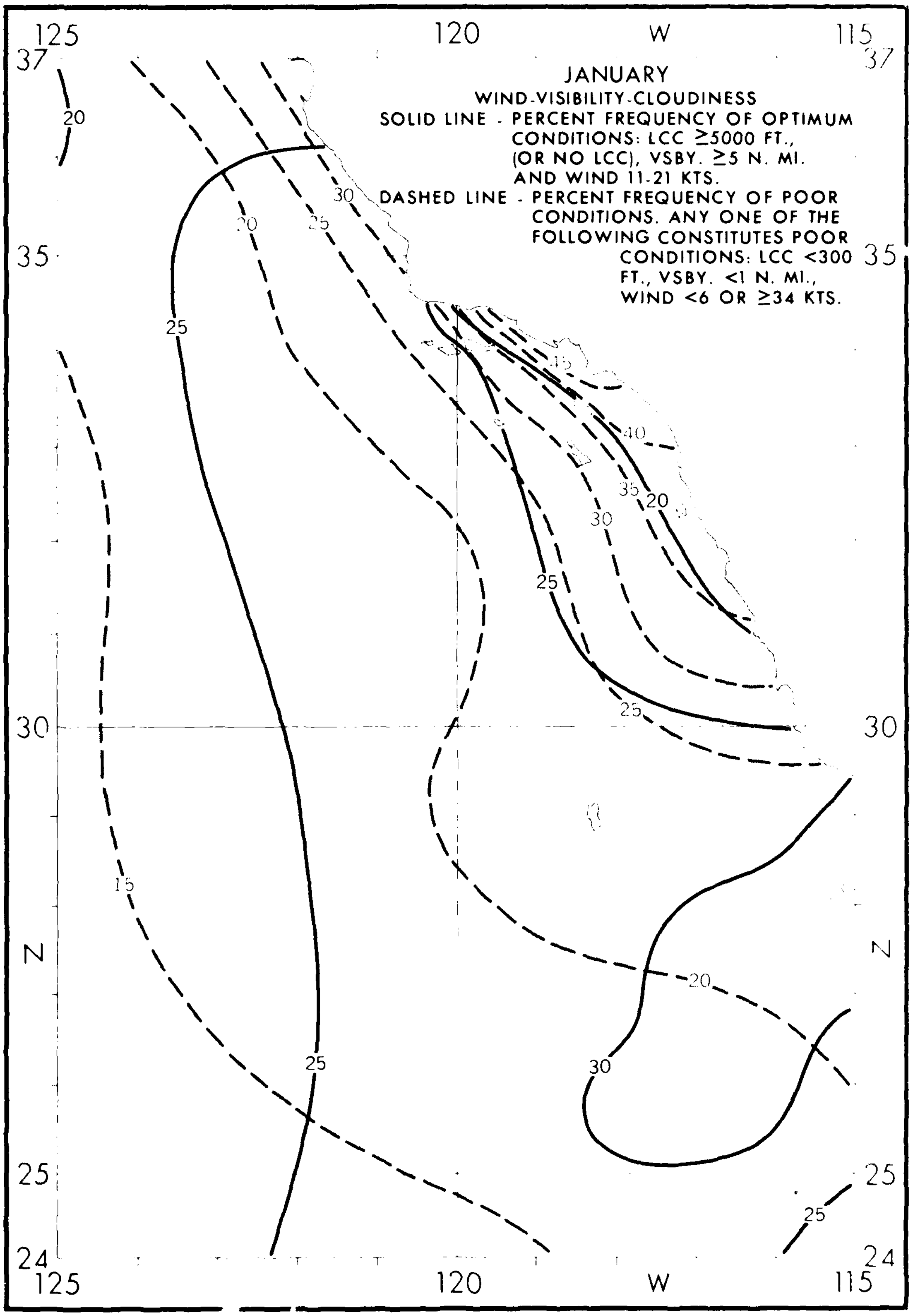

JANUARY

CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR VISIBILITY <10 N. MILES



JANUARY

CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES

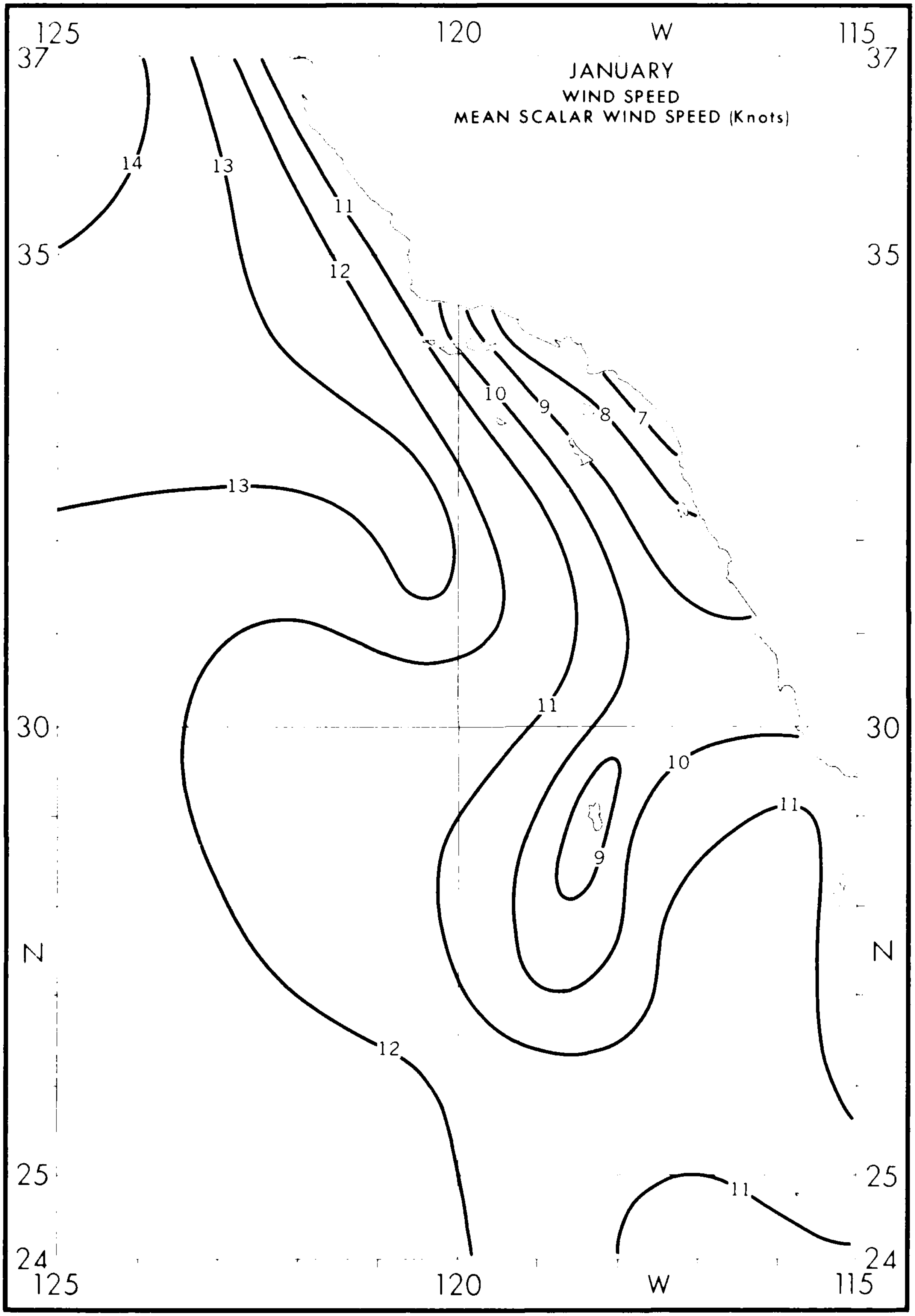


JANUARY

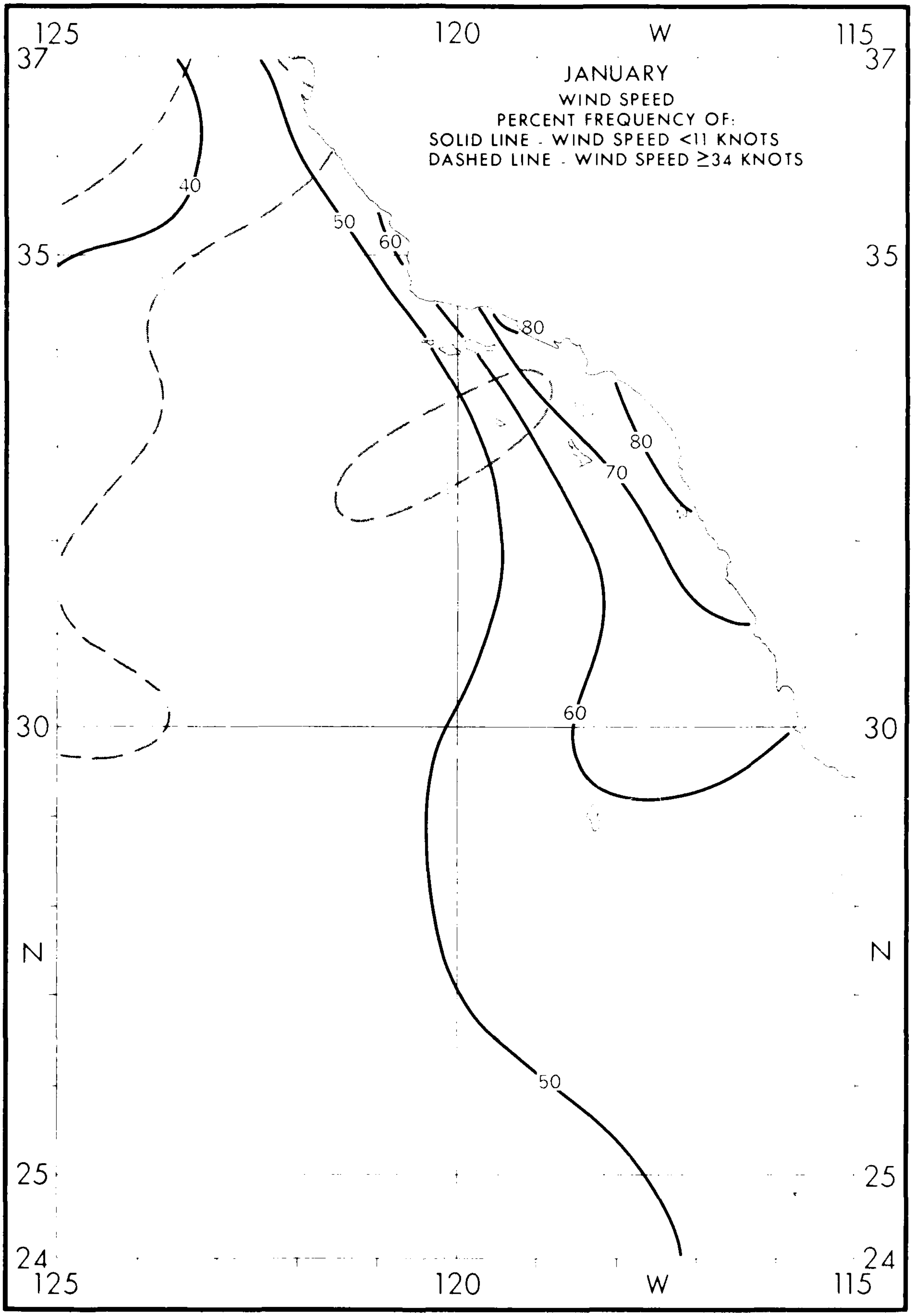
WIND-VISIBILITY-CLOUDINESS

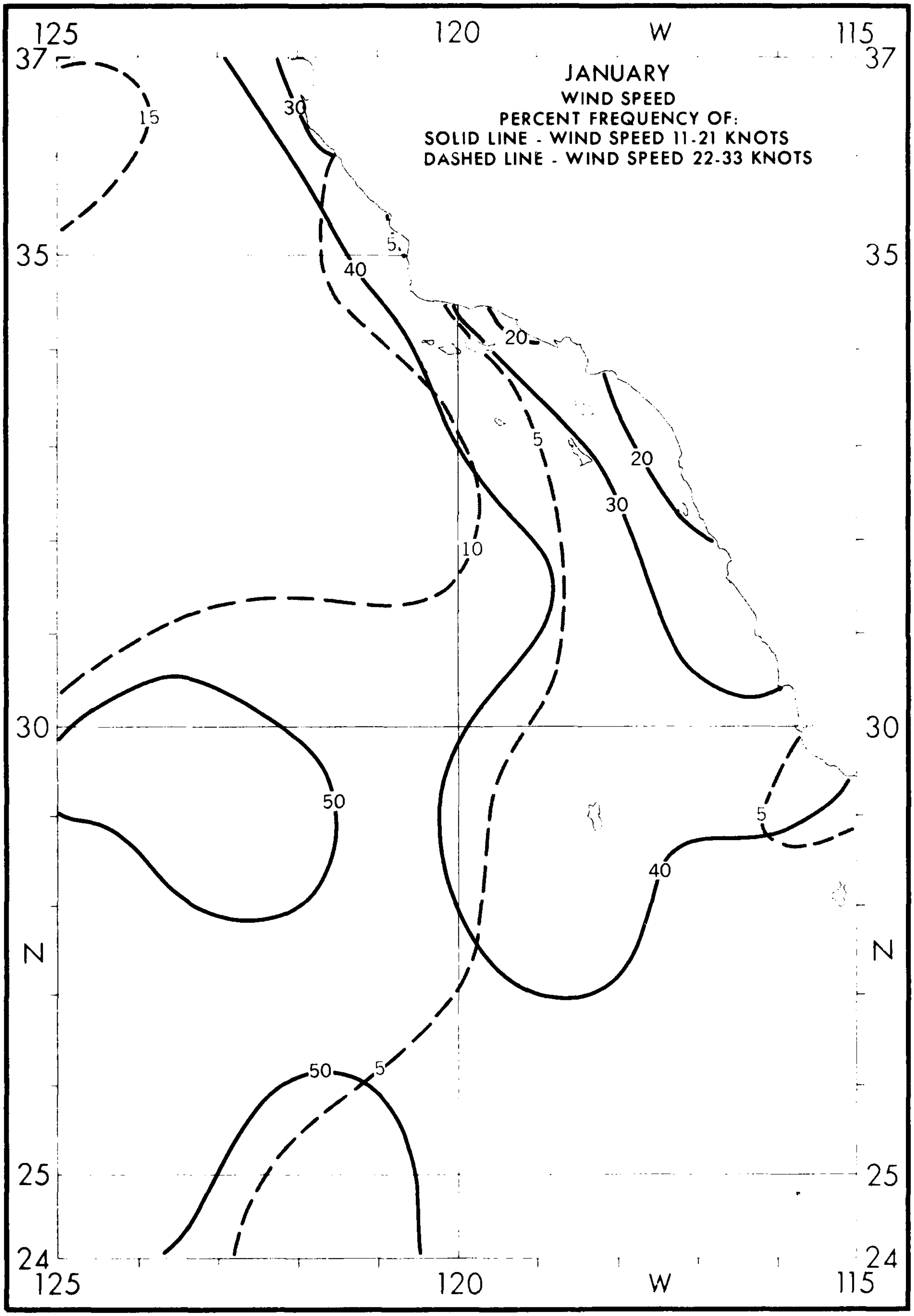
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.

DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.



JANUARY
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)


JANUARY
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS
125
120
W
115
37
35
30
N
25
24
40
50
60
80
80
70
60
50



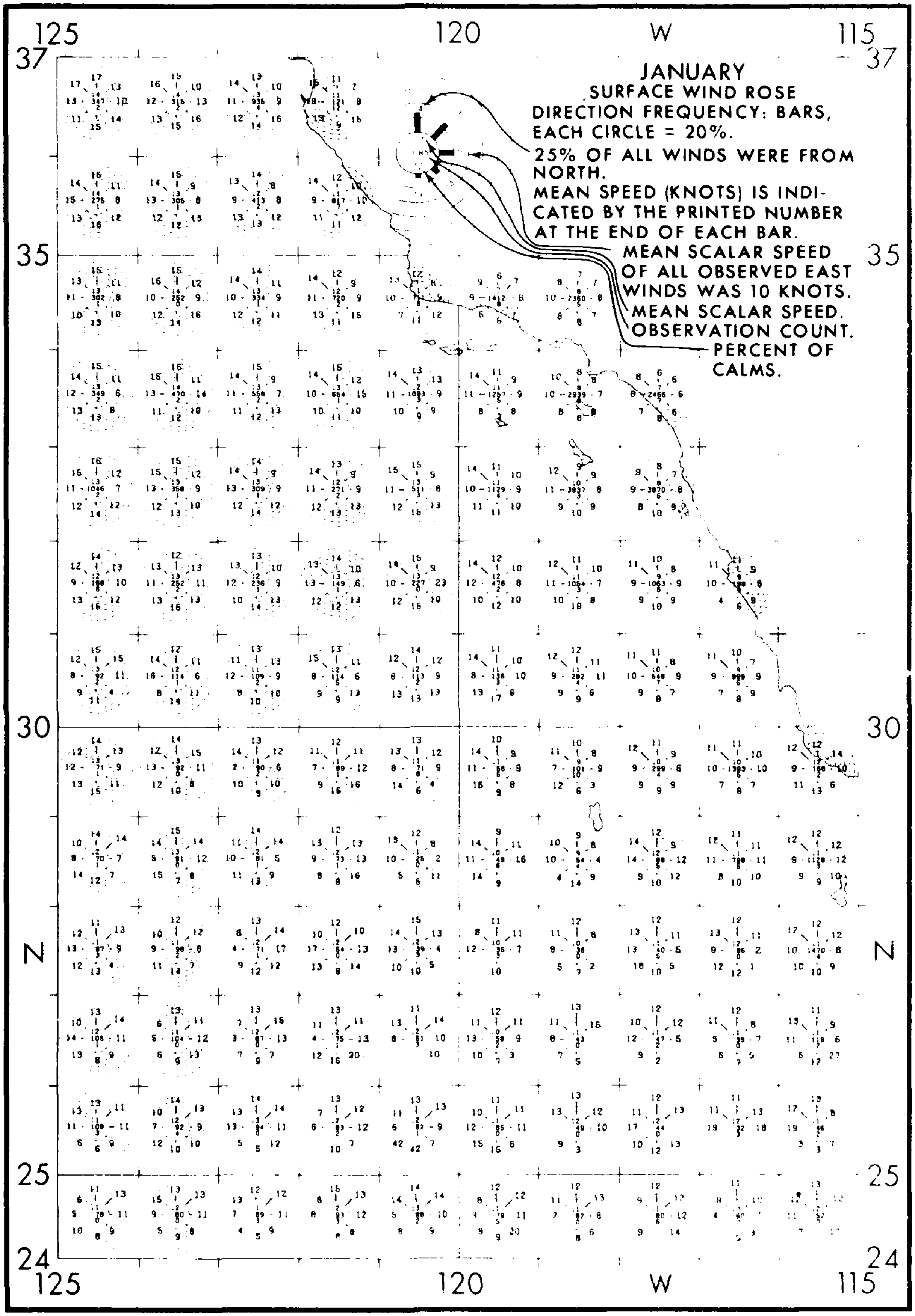
JANUARY

WIND SPEED

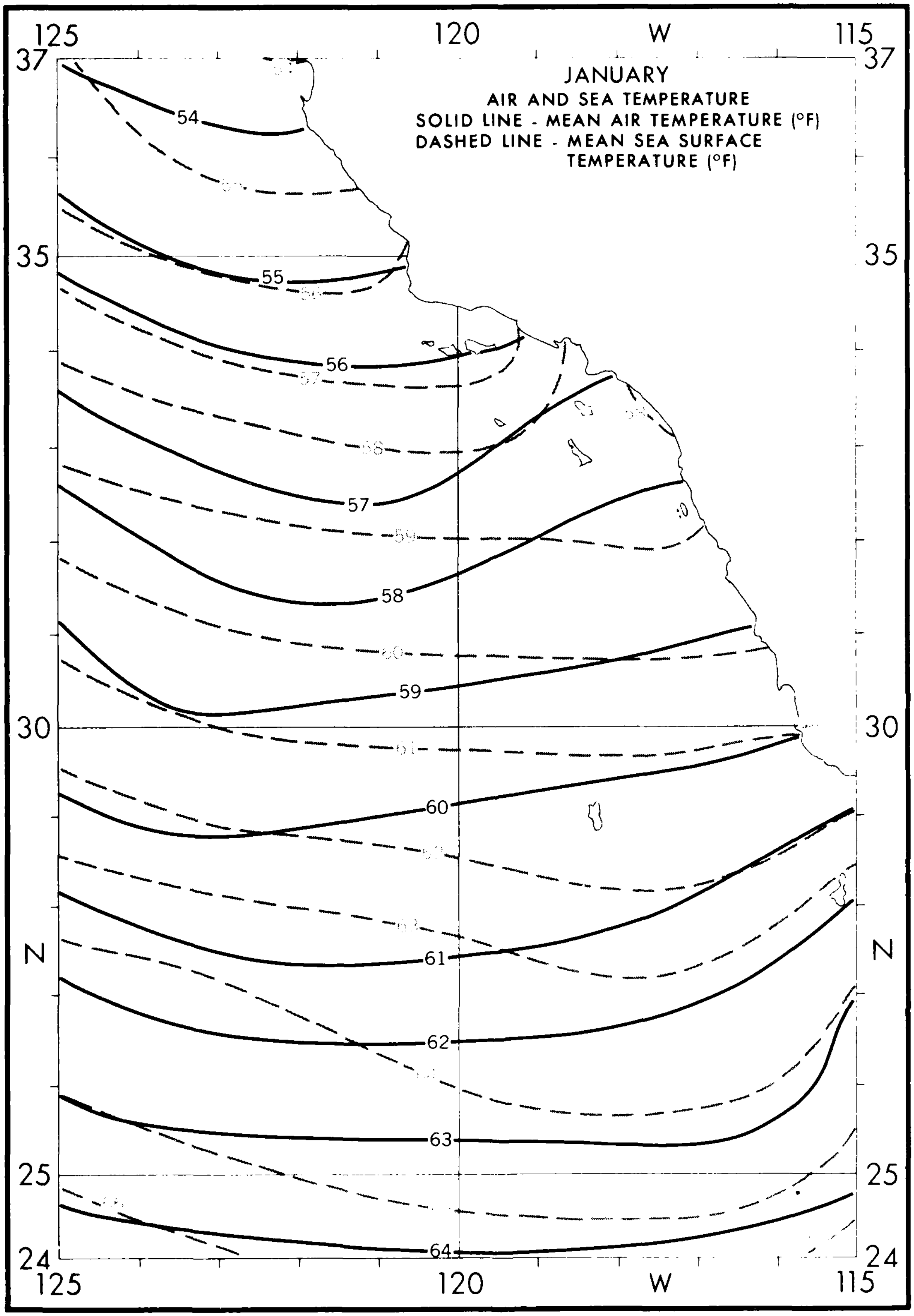
PERCENT FREQUENCY OF:

SOLID LINE - WIND SPEED 11-21 KNOTS

DASHED LINE - WIND SPEED 22-33 KNOTS



JANUARY
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.

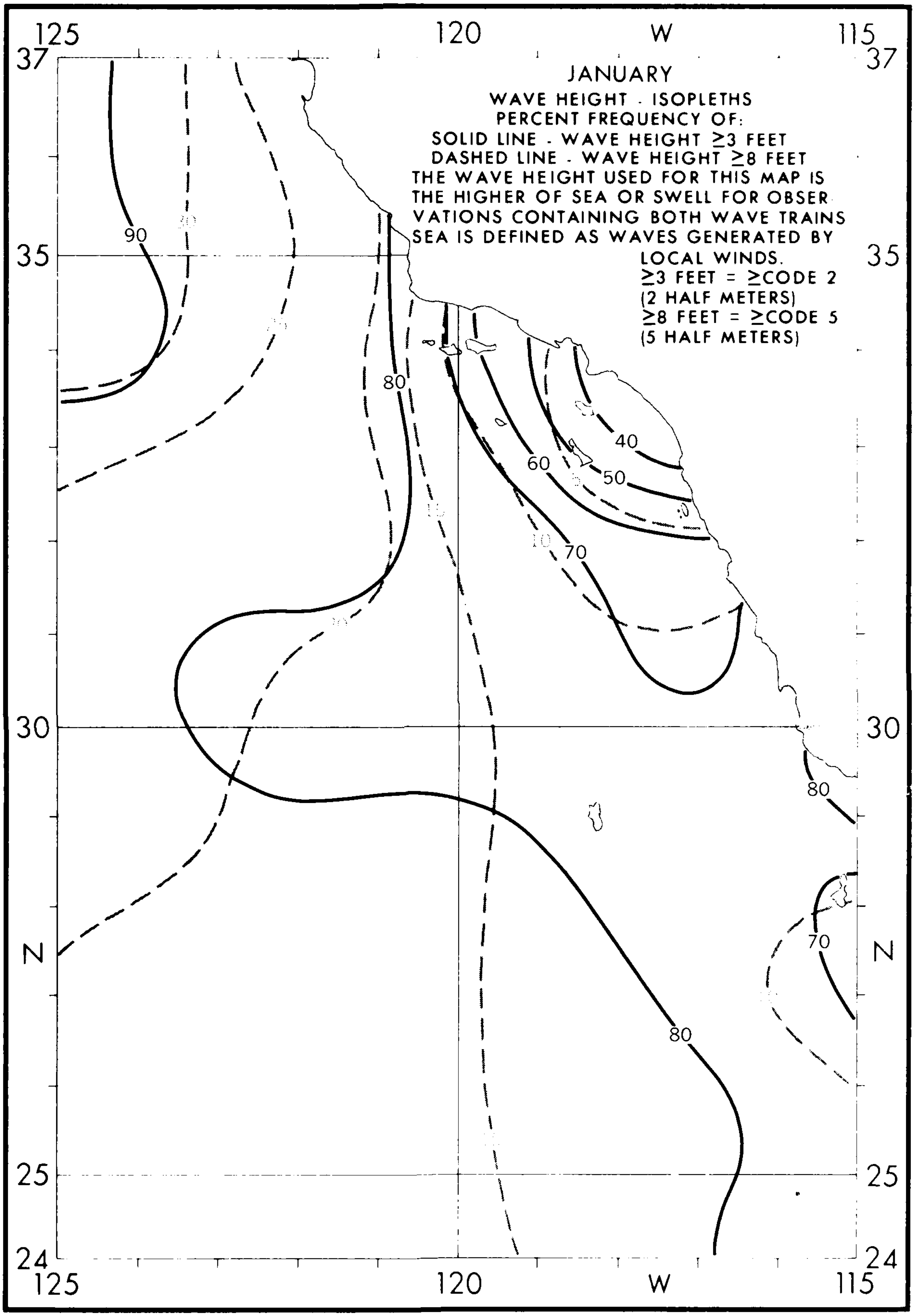


JANUARY

AIR AND SEA TEMPERATURE

SOLID LINE - MEAN AIR TEMPERATURE (°F)

DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)



JANUARY

WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS
SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)

125 120 W 115

JANUARY

WAVE HEIGHT-FREQUENCIES

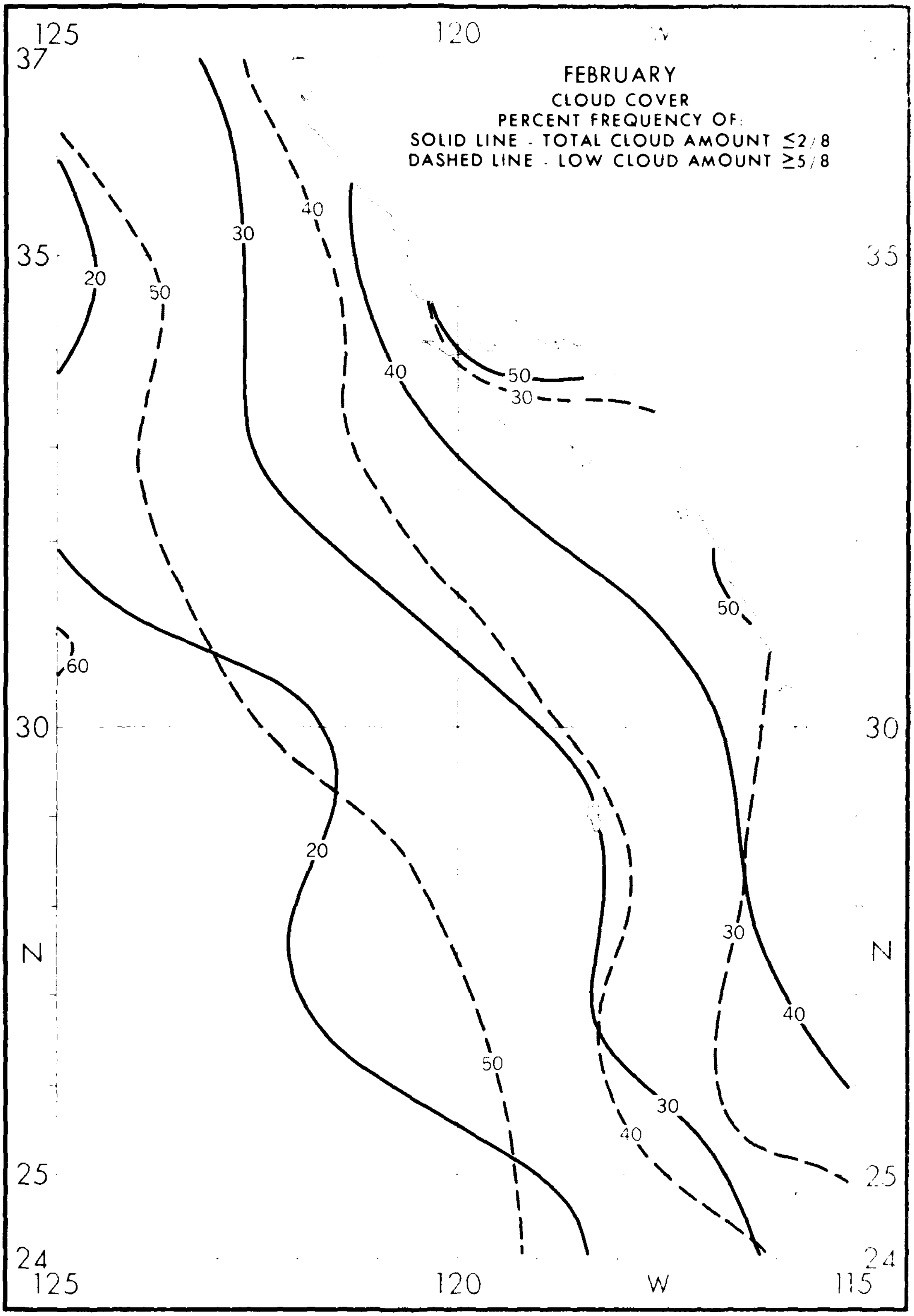
≤2	10.0	PERCENT FREQUENCY OF
3-4	20.0	VARIOUS RANGES WITHIN ONE-
5-6	30.0	DEGREE QUADRANGLES.
7-9	20.0	EXAMPLE:
10-12	10.0	30.0% OF ALL OBSERVED WAVE
≥13	10.0	HEIGHTS WERE IN THE RANGE 5
N =	1363	TO 6 FEET.

N = OBSERVATION COUNT.

WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.

37	≤2	10.2	14.5	17.1	13.9						
	3-4	15.0	24.3	23.8	30.6						
	5-6	17.1	17.8	19.1	13.9						
	7-9	29.9	19.7	25.5	25.0						
	10-12	15.0	15.8	7.9	11.1						
	≥13	12.8	7.9	6.5	5.6						
	N=	187	152	554	72						
	≤2	10.0	11.6	17.7	15.0						
	3-4	25.0	24.0	26.0	23.3						
	5-6	15.8	22.5	13.8	21.6						
	7-9	26.7	22.5	26.5	25.0						
	10-12	12.5	10.1	10.5	11.3						
	≥13	10.0	9.3	5.5	3.8						
	N=	120	129	181	468						
35	≤2	14.3	10.0	16.2	15.6	26.9	51.1	54.5			
	3-4	17.9	14.3	20.1	26.2	19.8	25.9	36.4			
	5-6	15.7	25.0	16.9	24.8	21.9	13.8				
	7-9	29.3	25.7	29.9	20.5	21.3	6.9				
	10-12	12.1	17.9	11.0	7.8	7.4	1.7				
	≥13	10.7	7.1	5.8	5.2	2.7	.6	9.1			
	N=	140	140	154	347	338	174	11			
	≤2	6.7	13.4	14.6	14.6	21.4	35.3	60.9	65.2		
	3-4	20.6	22.3	24.3	25.9	24.9	35.7	28.8	27.5		
	5-6	22.2	20.4	21.3	21.2	21.3	13.5	6.0	5.0		
	7-9	33.3	24.5	29.5	27.4	20.8	12.6	3.9	1.4		
	10-12	13.3	14.1	9.0	6.9	8.2	2.7	.3	.7		
	≥13	3.9	5.2	1.5	4.0	3.4	.2	.1	.2		
	N=	180	269	268	274	414	563	1472	437		
	≤2	14.3	11.5	16.6	15.3	20.0	26.8	44.0	57.5	50.0	
	3-4	32.1	24.9	18.9	26.1	20.7	34.7	33.4	28.3	25.0	
	5-6	16.3	21.5	23.1	19.7	17.8	16.0	11.4	7.2	25.0	
	7-9	24.8	31.1	25.4	27.4	28.0	18.1	8.9	5.7		
	10-12	10.6	7.2	11.2	6.4	10.2	3.5	1.6	.8		
	≥13	2.0	3.8	4.7	5.1	3.3	1.0	.7	.5		
	N=	860	209	169	157	275	695	2695	2856	4	
	≤2	18.3	11.7	12.7	21.3	16.1	27.1	26.9	33.9	26.2	
	3-4	22.5	22.7	29.9	25.9	30.8	29.7	36.0	30.1	32.4	
	5-6	20.4	23.4	19.4	13.0	20.3	12.2	14.2	17.5	17.9	
	7-9	27.5	29.2	23.9	26.9	16.8	22.8	18.2	13.4	15.2	
	10-12	7.0	10.4	11.9	10.2	13.3	4.6	3.5	3.5	7.6	
	≥13	4.2	2.6	2.2	2.8	2.8	3.6	1.2	1.6	.7	
	N=	142	154	134	108	143	303	780	753	145	
	≤2	18.8	25.0	28.1	19.5	21.0	27.5	24.5	30.5	30.0	100.0
	3-4	22.9	20.3	26.3	32.9	21.0	33.0	27.5	27.4	29.0	
	5-6	25.0	18.8	12.3	11.0	18.5	18.7	23.0	18.8	21.9	
	7-9	22.9	18.8	22.8	31.7	33.3	14.3	18.0	15.1	13.0	
	10-12	8.3	12.5	3.5	3.7	6.2	5.5	5.0	5.7	4.5	
	≥13	2.1	4.7	7.0	1.2		1.1	2.0	2.3	1.7	
	N=	48	64	57	82	81	91	200	383	663	1
30	≤2	9.8	4.7	24.4	25.0	5.3	16.3	44.2	28.2	28.7	18.0
	3-4	19.5	32.6	24.4	28.6	42.1	27.9	27.3	20.8	30.2	33.8
	5-6	19.5	14.0	17.1	19.6	21.1	30.2	15.6	25.7	20.0	27.1
	7-9	39.0	27.9	22.0	23.2	26.3	20.9	10.4	19.8	16.0	14.3
	10-12	9.8	11.6	9.8	1.8	3.5	2.3		3.5	3.2	4.5
	≥13	2.4	9.3	2.4	1.8	1.8	2.3	2.6	2.0	1.9	2.3
	N=	41	43	41	56	57	43	77	202	958	133
	≤2	4.4	13.2	9.4	7.1	13.3	12.1	22.7	22.4	28.4	30.4
	3-4	26.7	11.3	24.5	28.6	26.7	30.3	31.8	19.0	26.6	29.2
	5-6	17.8	30.2	17.0	26.2	13.3	45.5	20.5	27.6	23.0	19.5
	7-9	40.0	26.4	32.1	28.6	33.3	9.1	18.2	19.0	16.8	15.7
	10-12	8.9	15.1	13.2	7.1	13.3		4.5	6.9	4.0	4.0
	≥13	2.2	3.8	3.8	2.4		3.0	2.3	5.2	1.3	1.2
	N=	45	53	53	42	15	33	44	58	553	766
	≤2	11.9	19.6	14.0	13.3	3.8	19.2	11.5	21.4	12.3	28.8
	3-4	25.4	21.6	31.6	20.0	30.8	11.5	34.6	17.9	35.1	30.4
	5-6	28.8	25.5	24.6	23.3	19.2	38.5	23.1	17.9	26.3	21.6
N	7-9	18.6	23.5	28.1	26.7	19.2	19.2	26.9	39.3	15.8	15.3
	10-12	8.5	5.9		16.7	26.9	11.5		3.6	7.0	2.4
	≥13	6.8	3.9	1.8				3.8		3.5	1.5
	N=	59	51	57	30	26	26	26	28	57	1007
	≤2	18.2	16.4	25.8	18.6	14.3	18.4	22.6	18.4	23.8	27.4
	3-4	22.7	27.9	21.2	18.6	26.5	23.7	16.1	23.7	19.0	31.5
	5-6	19.7	16.4	21.2	32.6	18.4	21.1	9.7	18.4	28.6	15.1
	7-9	22.7	31.1	25.8	25.6	38.8	18.4	45.2	28.9	28.6	19.2
	10-12	13.6	6.6	4.5	4.7	2.0	10.5	6.5	7.9		2.7
	≥13	3.0	1.6	1.5			7.9		2.6		4.1
	N=	66	61	66	43	49	38	31	38	21	73
	≤2	12.2	21.7	13.8	21.2	18.5	21.1	14.7	18.4	19.2	20.0
	3-4	18.3	23.3	27.7	11.5	33.3	31.6	23.5	28.9	23.1	25.7
	5-6	32.9	20.0	16.9	30.8	13.0	29.8	32.4	28.9	30.8	14.3
	7-9	28.0	21.7	24.6	30.8	27.8	14.0	17.6	18.4	19.2	37.1
	10-12	7.3	10.0	13.8	3.8	3.7	3.5	11.8	5.3	7.7	2.9
	≥13	1.2	3.3	3.1	1.9	3.7					
	N=	82	60	65	52	54	57	34	38	26	35
25	≤2	18.0	5.9	21.2	17.9	14.5	27.9	25.4	19.7	22.2	17.1
	3-4	28.0	15.7	19.2	14.9	25.8	24.6	32.2	34.8	29.6	26.8
	5-6	22.0	33.3	32.7	31.3	30.6	19.7	18.6	25.8	22.2	34.1
	7-9	28.0	33.3	26.9	29.9	21.0	19.7	18.6	18.2	18.5	17.1
	10-12	6.0	9.8		4.5	6.5	6.6	3.4	1.5	7.4	4.9
	≥13		2.0		1.5	1.6	1.6	1.7			
24	N=	50	51	52	67	62	61	59	66	54	41

125 120 W 115


FEBRUARY
CLOUD COVER
PERCENT FREQUENCY OF:
SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8
DASHED LINE - LOW CLOUD AMOUNT ≥5/8
125
120
W
115
37
35
30
25
24
N
20
50
30
40
40
50
30
50
60
20
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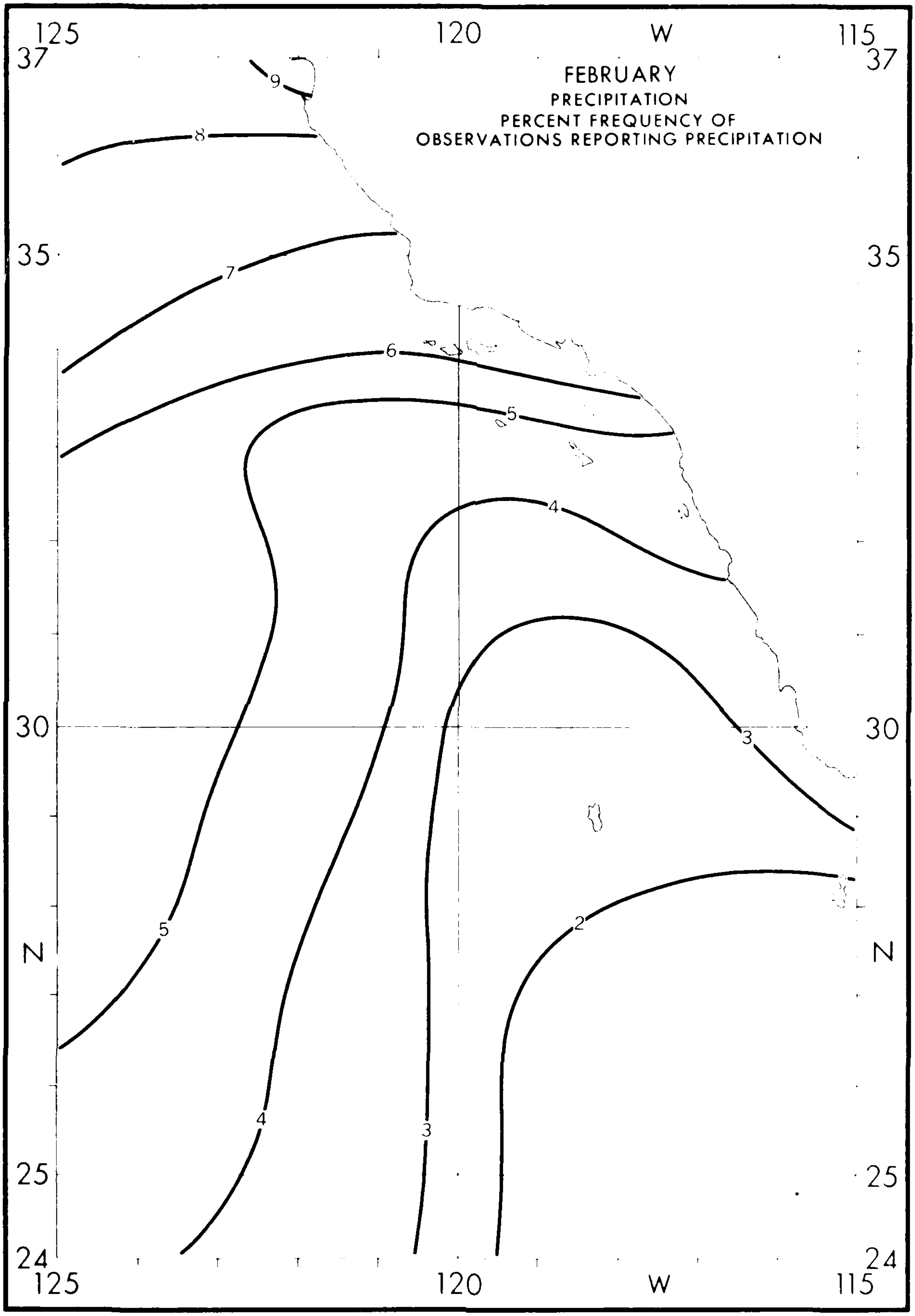
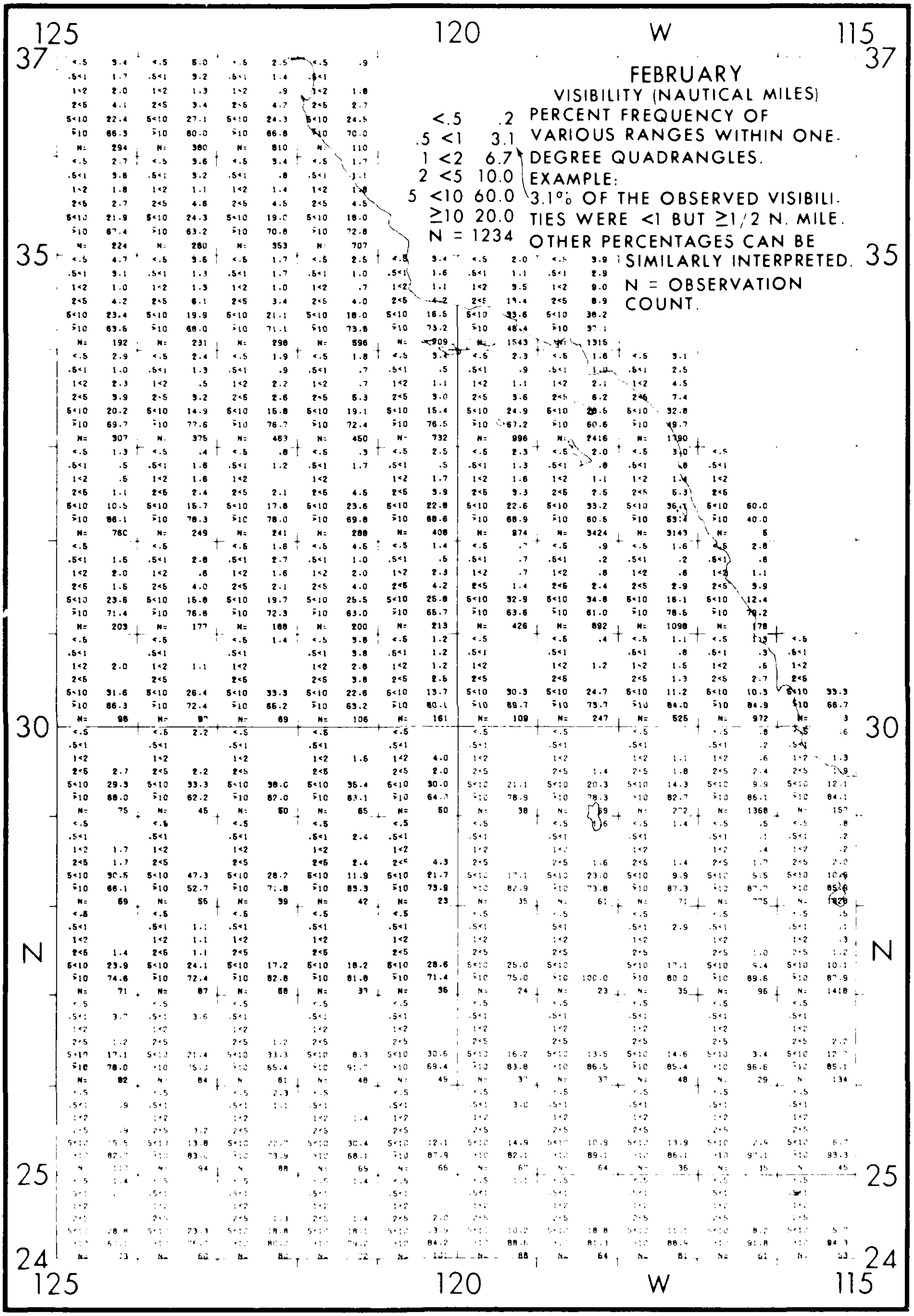
40
30
40

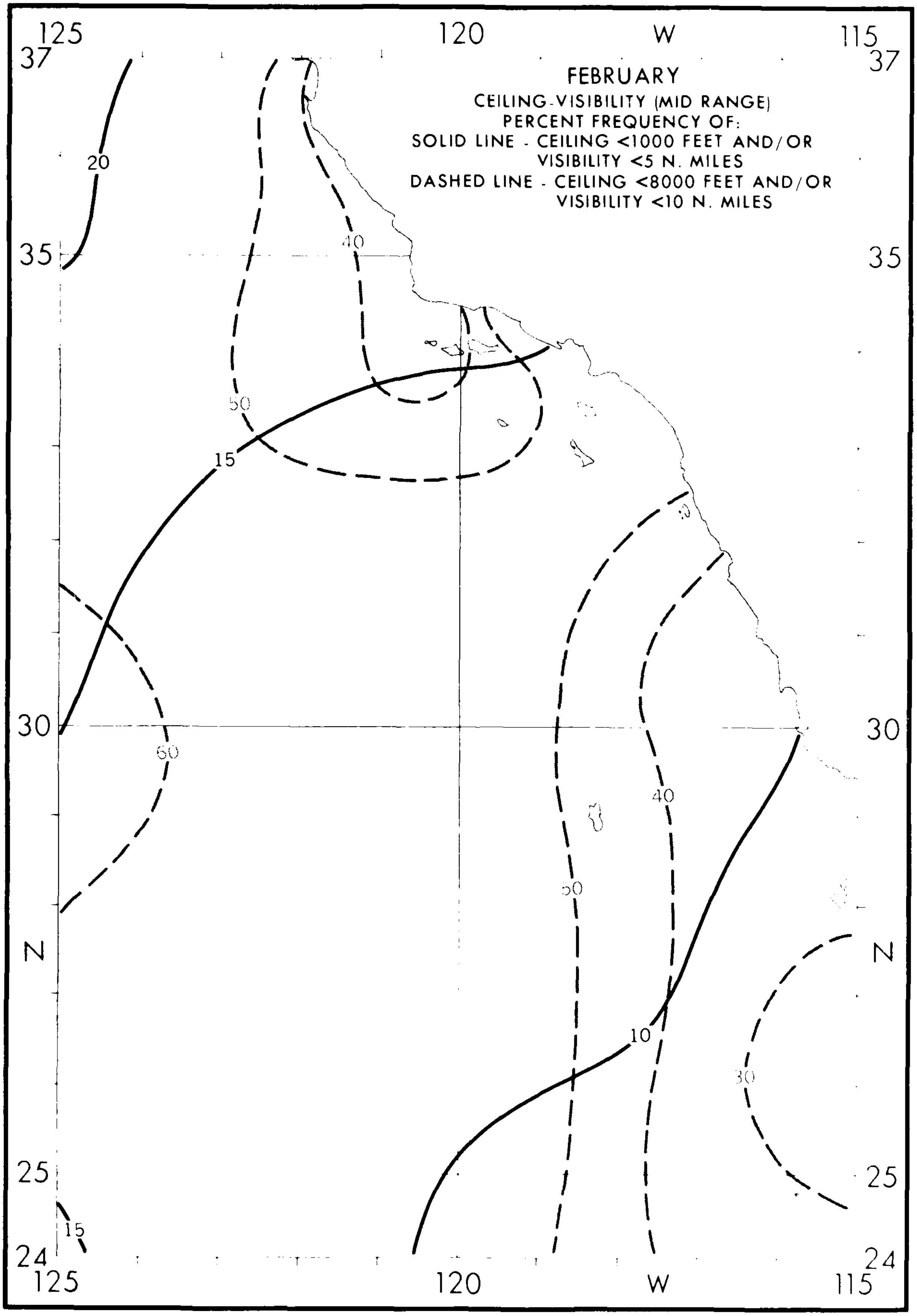


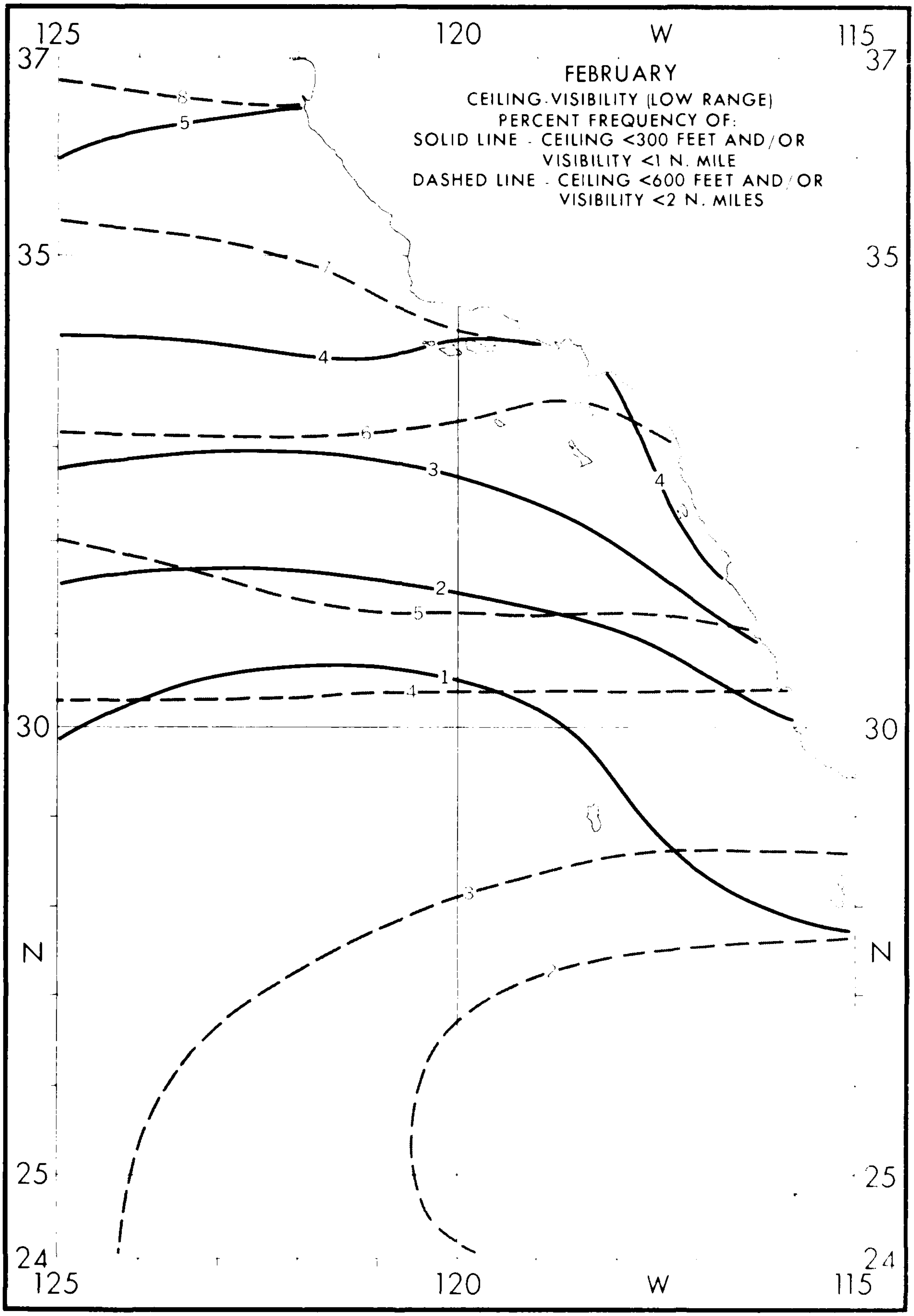
FEBRUARY
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION



FEBRUARY

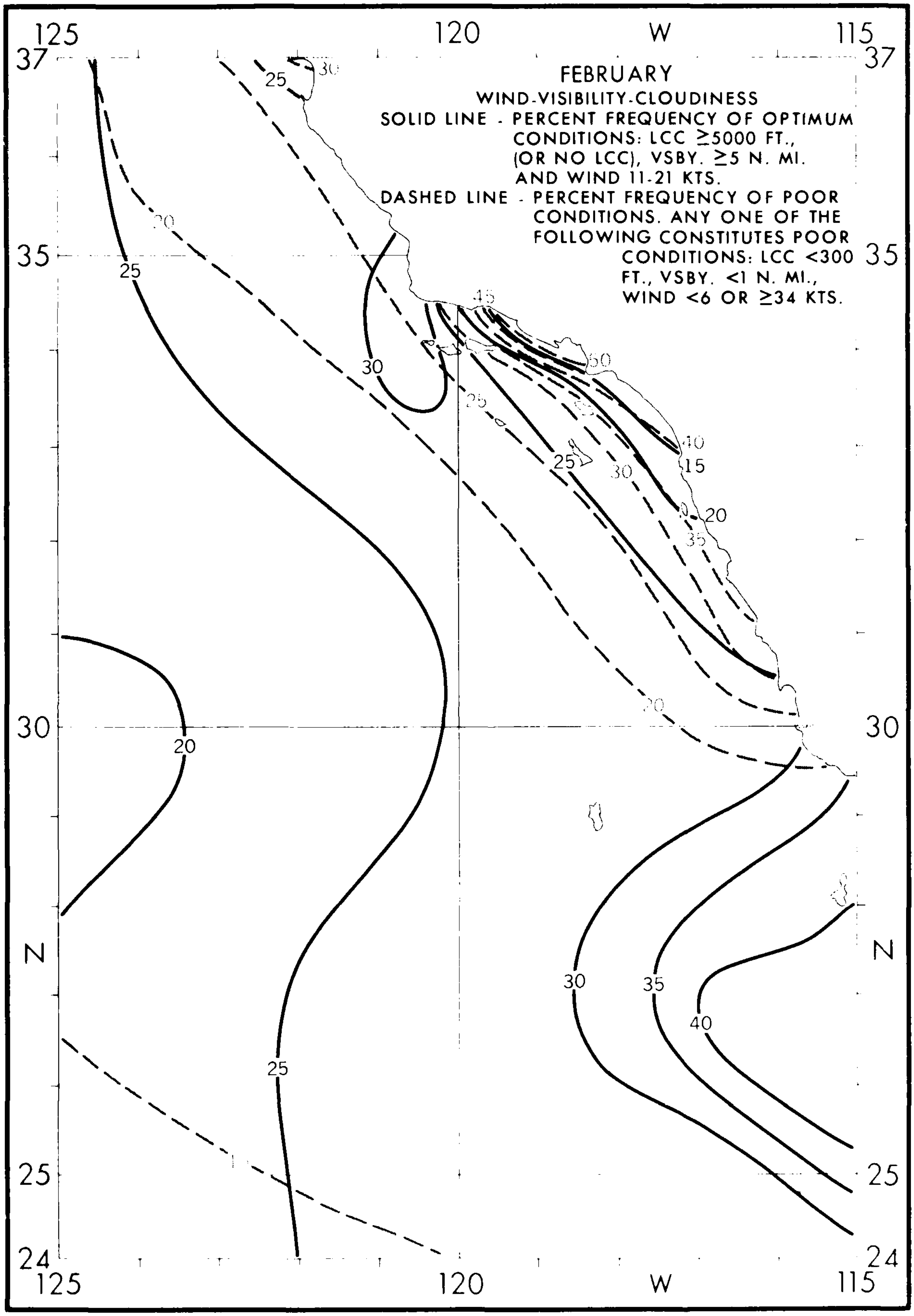
VISIBILITY (NAUTICAL MILES)
PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.
EXAMPLE:
3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.
N = OBSERVATION COUNT.


FEBRUARY
CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR VISIBILITY <10 N. MILES
125
120
W
115
37
35
30
N
25
24
20
40
50
15
60
40
40
50
10
30
15



FEBRUARY

CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES

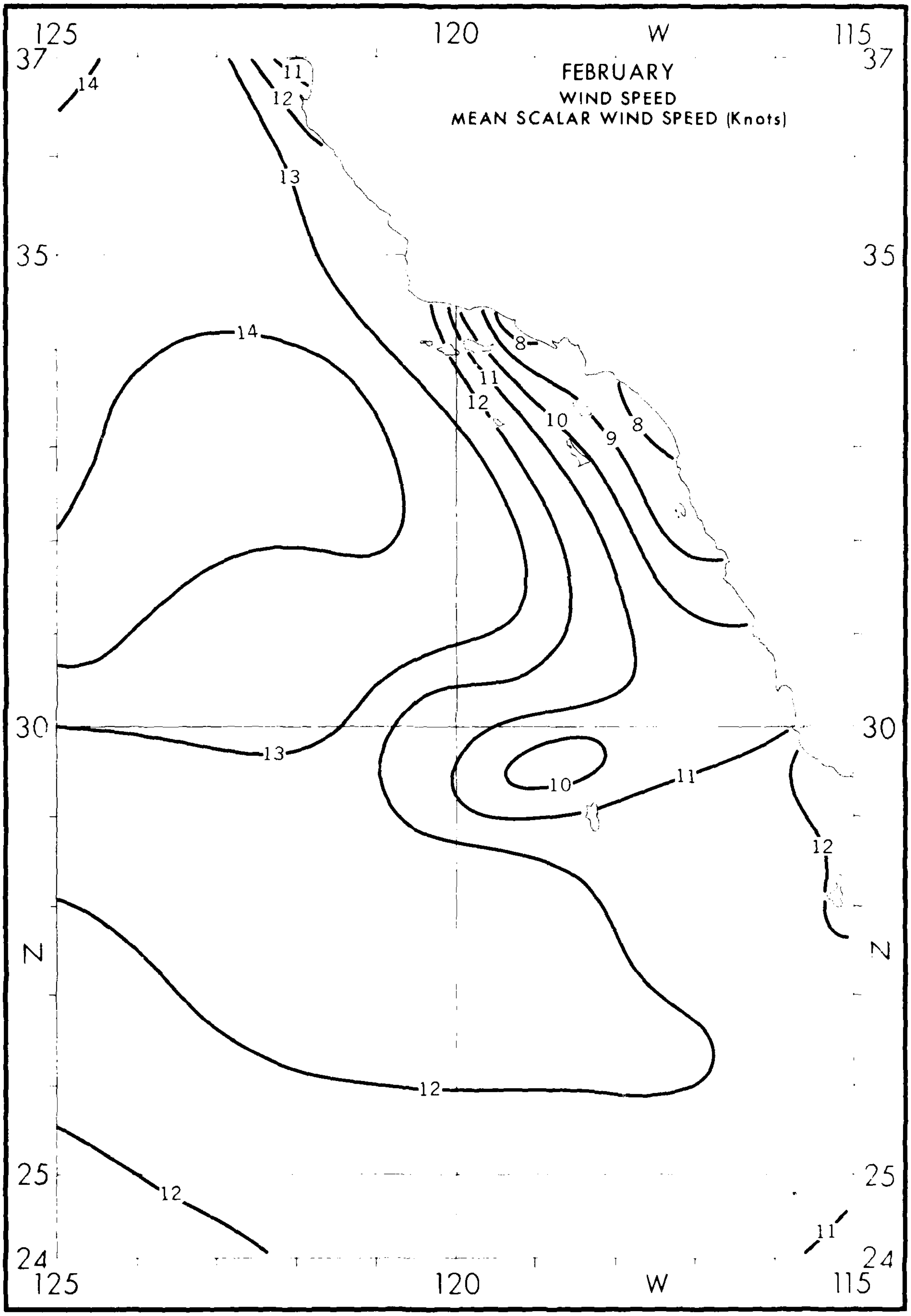


FEBRUARY

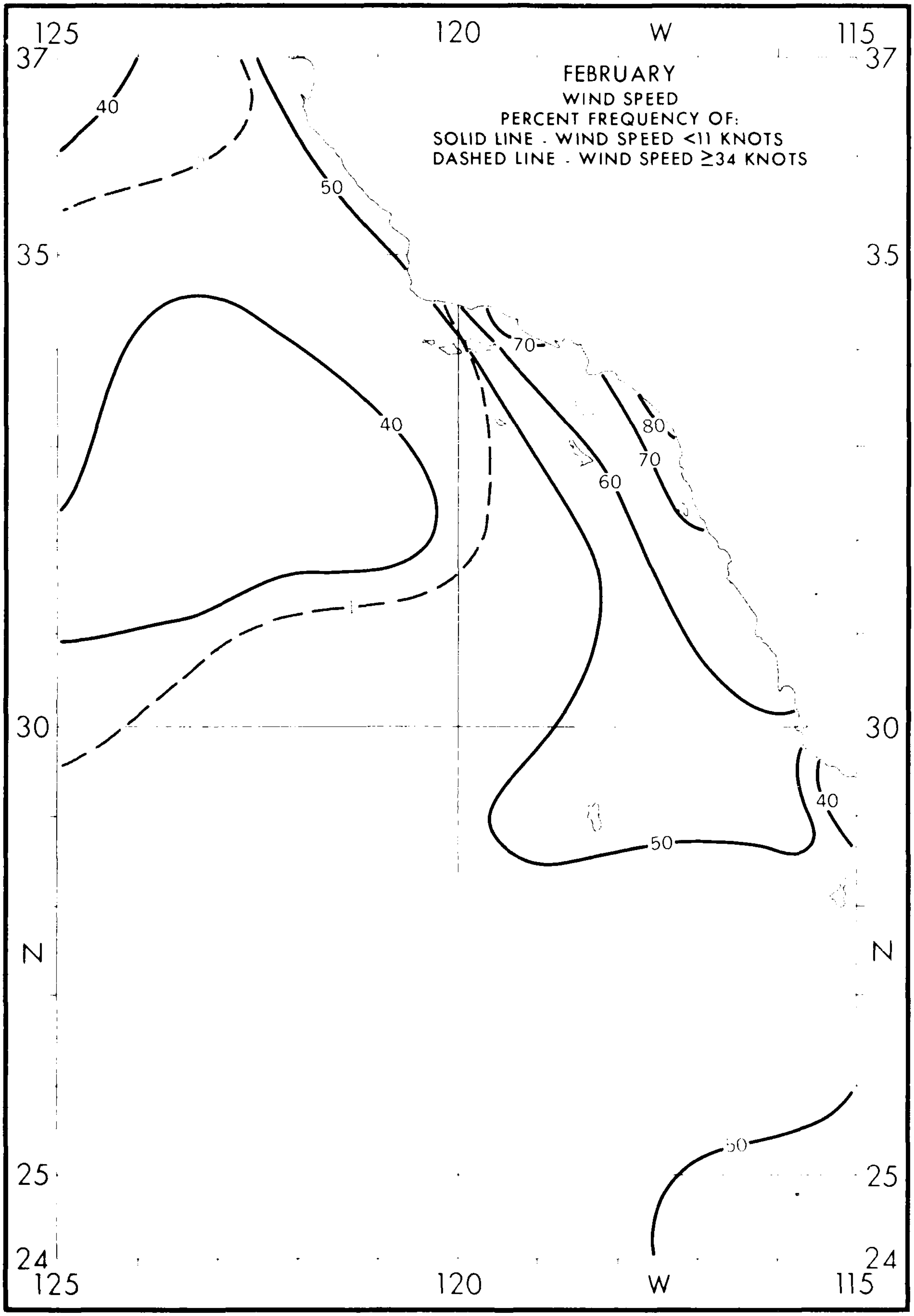
WIND-VISIBILITY-CLOUDINESS

SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.

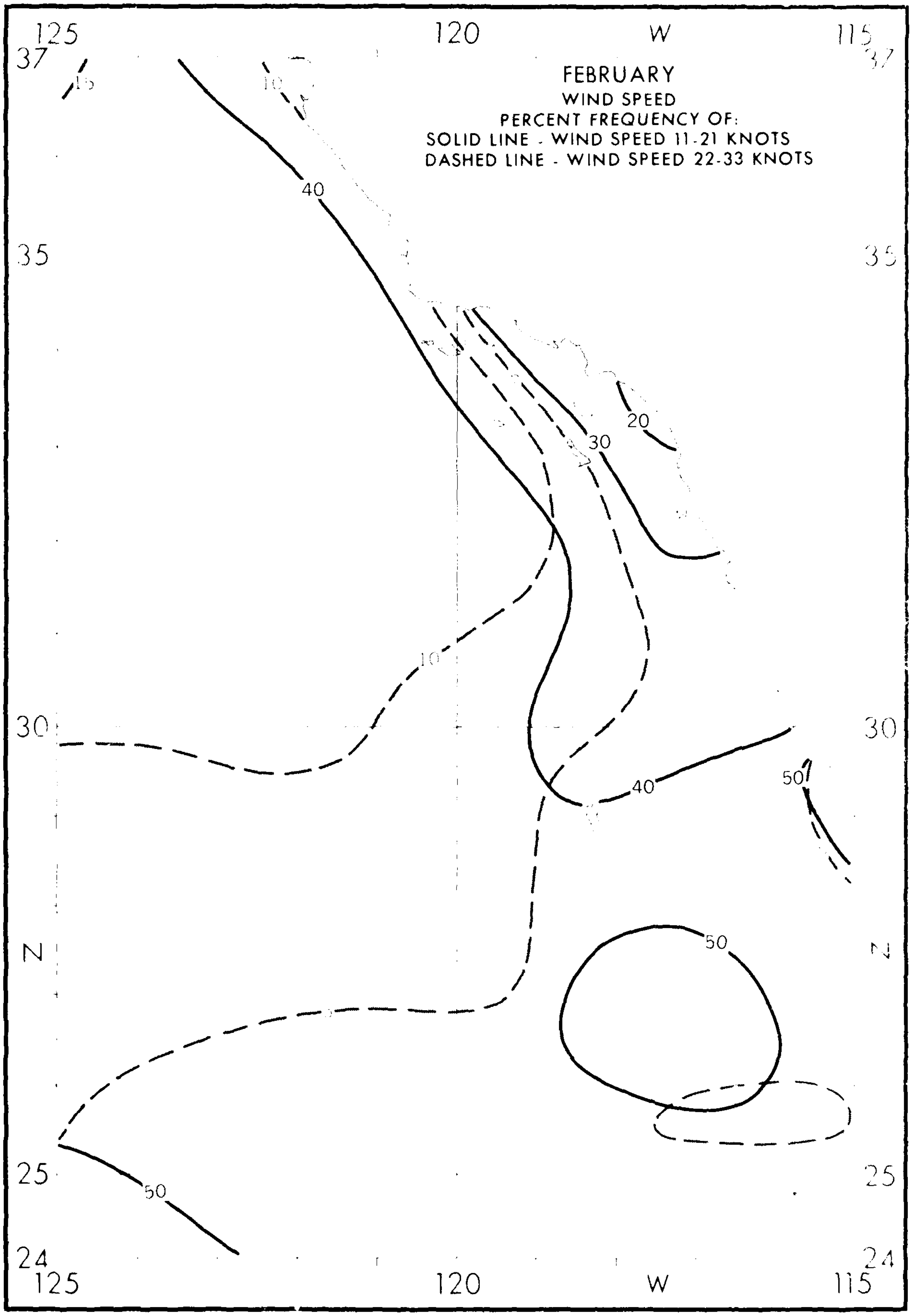
DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.

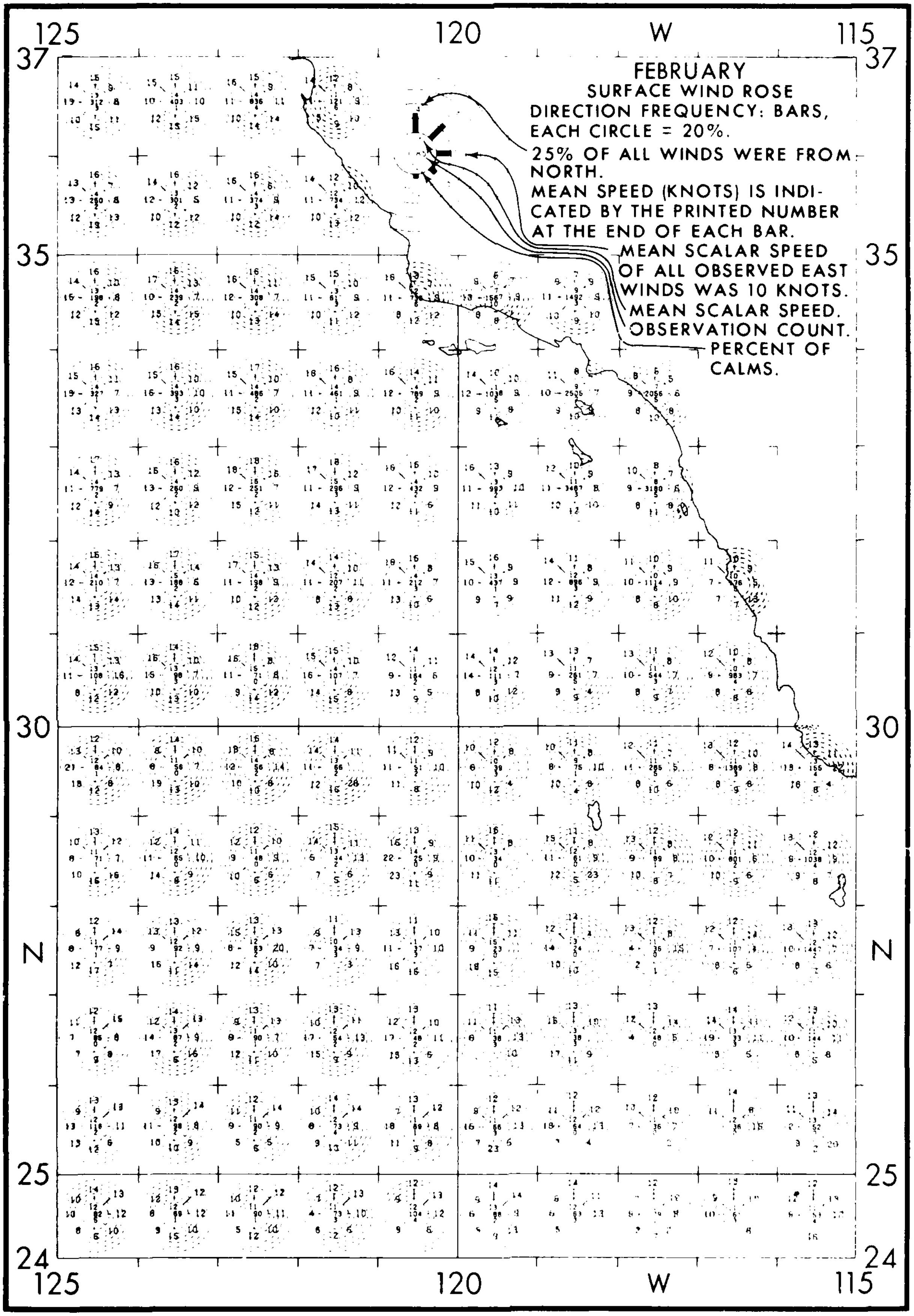


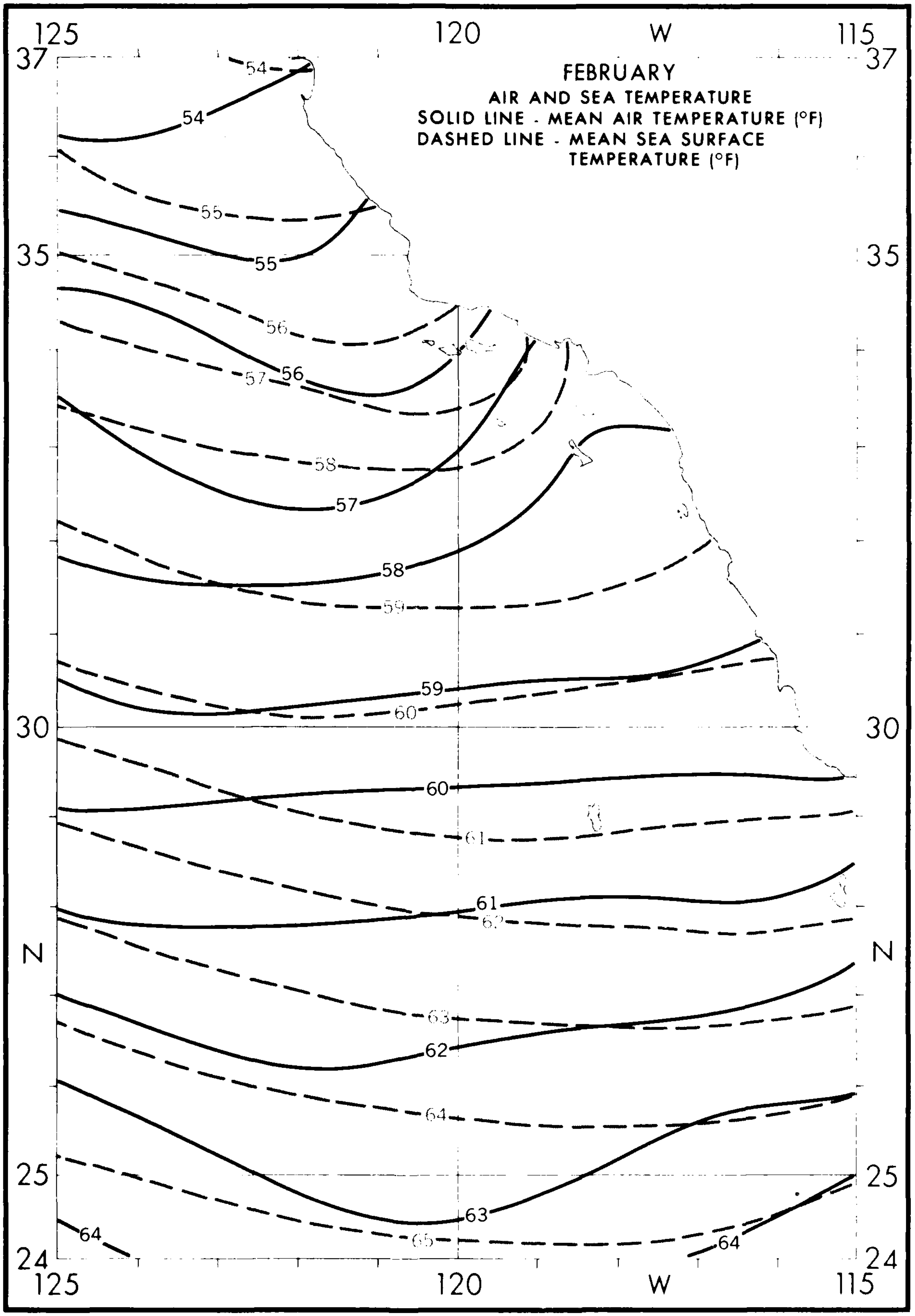
FEBRUARY
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)



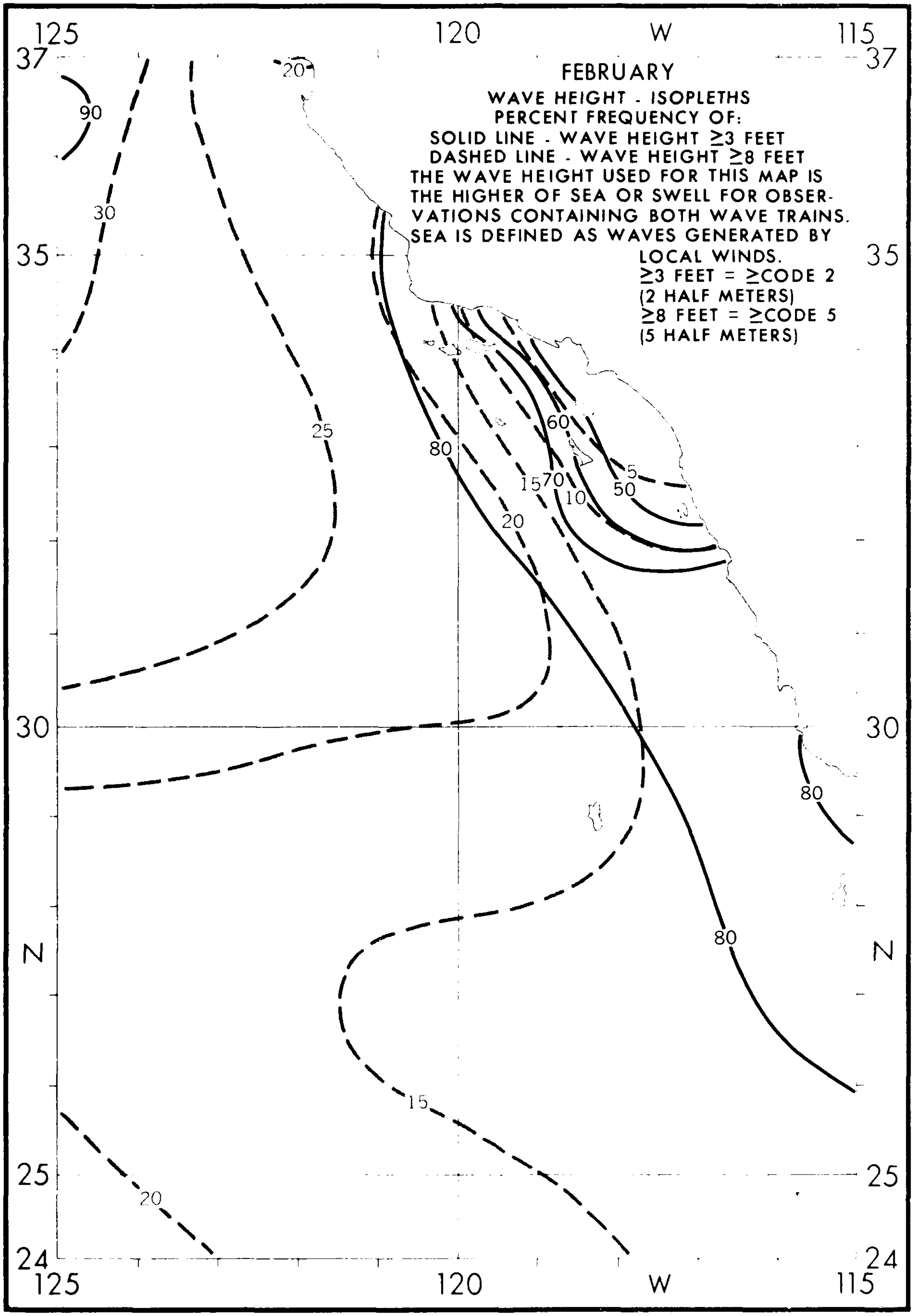
FEBRUARY
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS
125
120
W
115
37
35
30
N
25
24
40
50
70
80
70
60
40
40
50
50


FEBRUARY
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED 11-21 KNOTS
DASHED LINE - WIND SPEED 22-33 KNOTS
125
120
W
115
37
35
30
N
25
24
15
10
40
30
20
10
40
50
50
50


FEBRUARY
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.

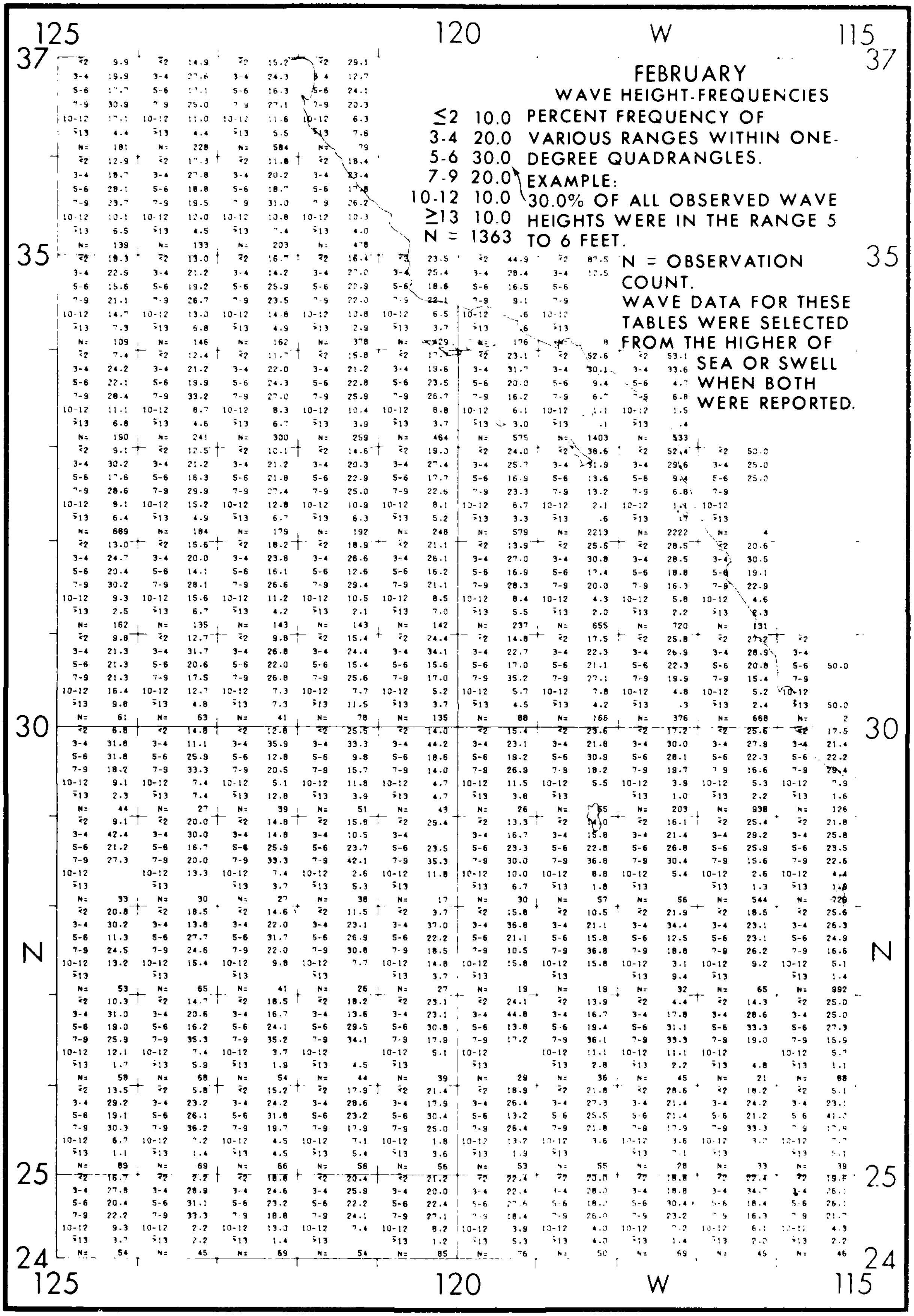


125
120
W
115
37
35
30
25
24
N
FEBRUARY
AIR AND SEA TEMPERATURE
SOLID LINE - MEAN AIR TEMPERATURE (°F)
DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)
54
54
55
55
56
57
56
58
57
58
59
59
60
60
61
61
62
63
62
64
63
65
64
64



FEBRUARY

WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)



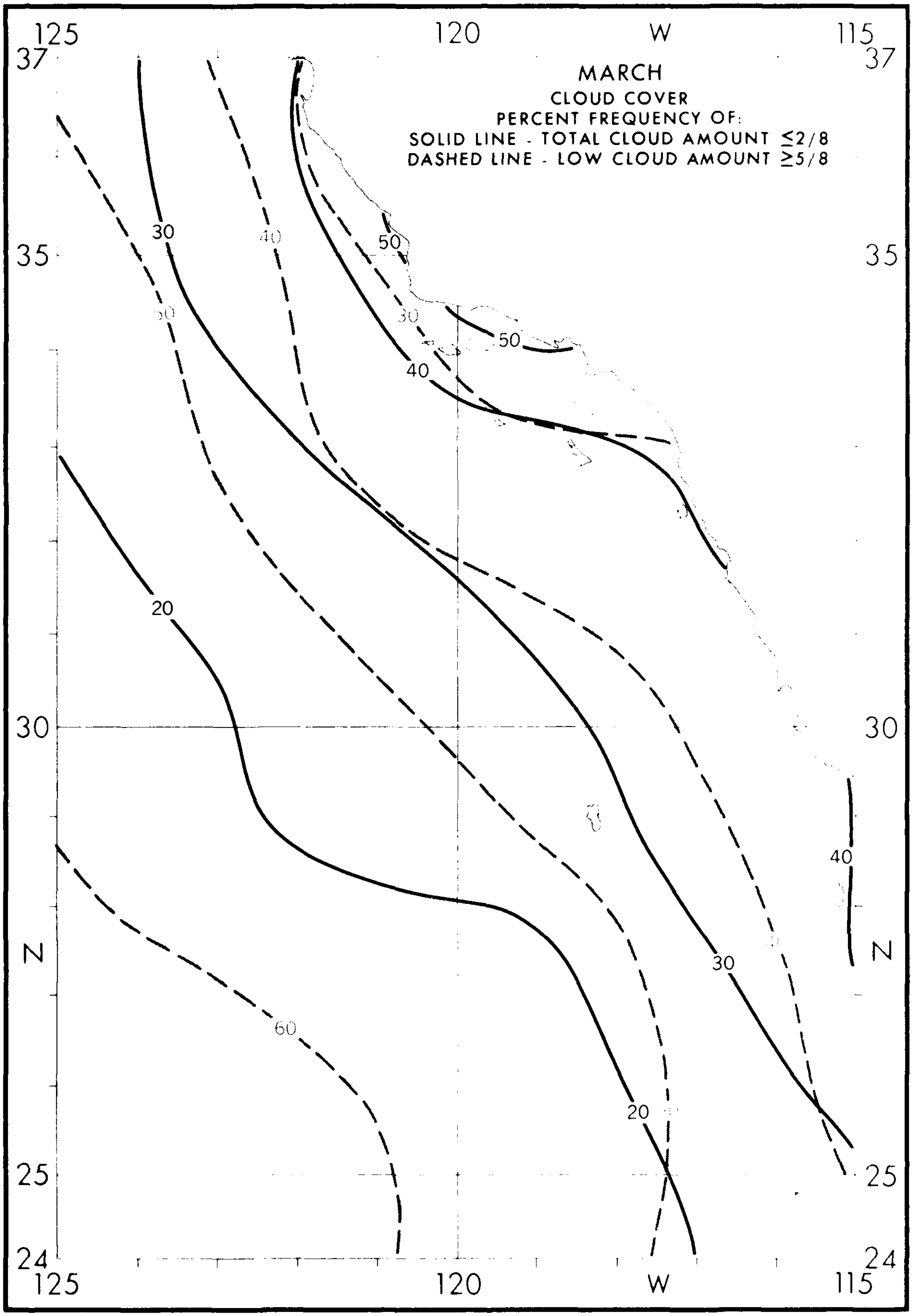
FEBRUARY

WAVE HEIGHT-FREQUENCIES

≤2	10.0	PERCENT FREQUENCY OF
3-4	20.0	VARIOUS RANGES WITHIN ONE-
5-6	30.0	DEGREE QUADRANGLES.
7-9	20.0	EXAMPLE:
10-12	10.0	30.0% OF ALL OBSERVED WAVE
≥13	10.0	HEIGHTS WERE IN THE RANGE 5
N =	1363	TO 6 FEET.

N = OBSERVATION COUNT.

WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.



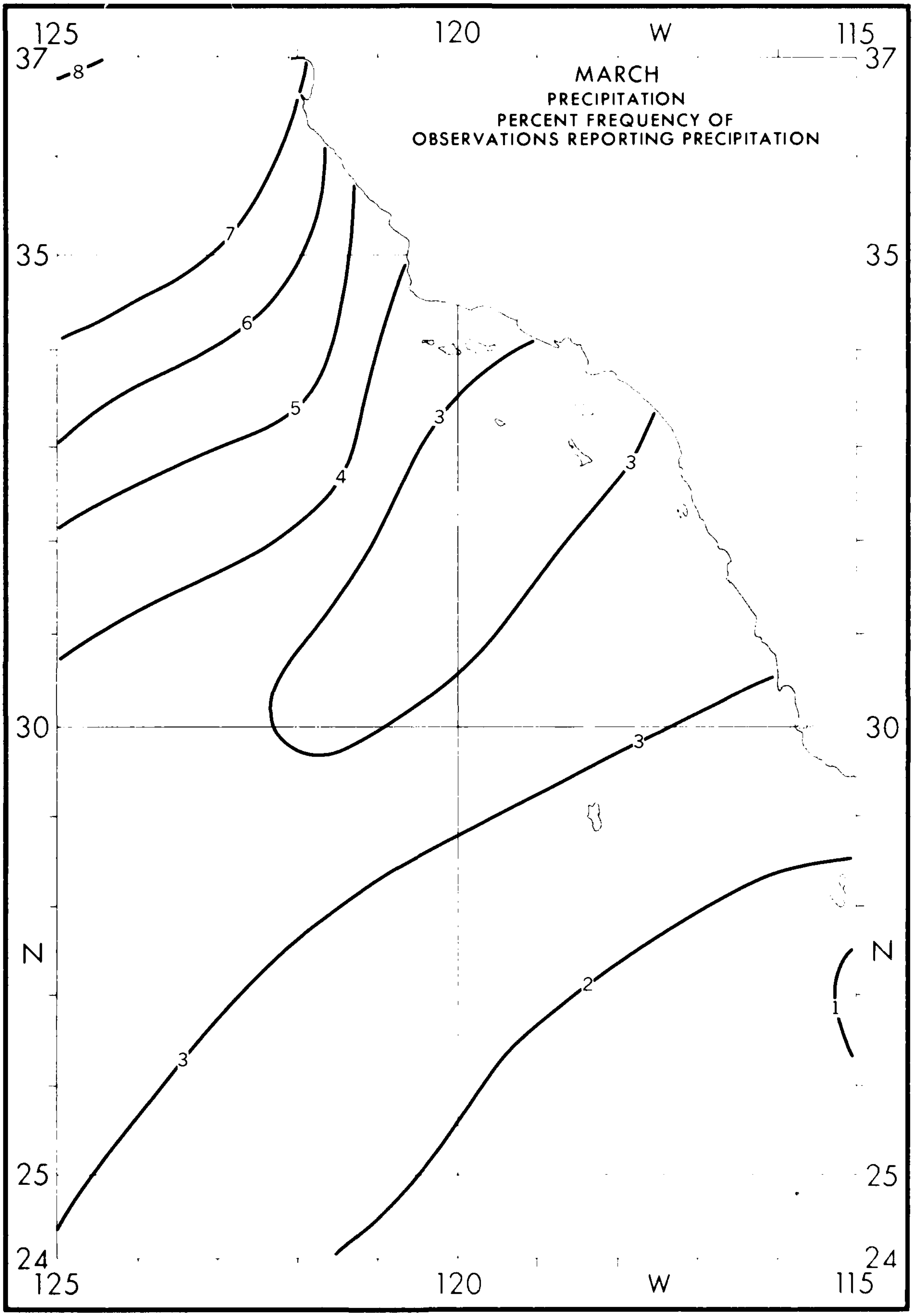
MARCH

CLOUD COVER

PERCENT FREQUENCY OF:

SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8

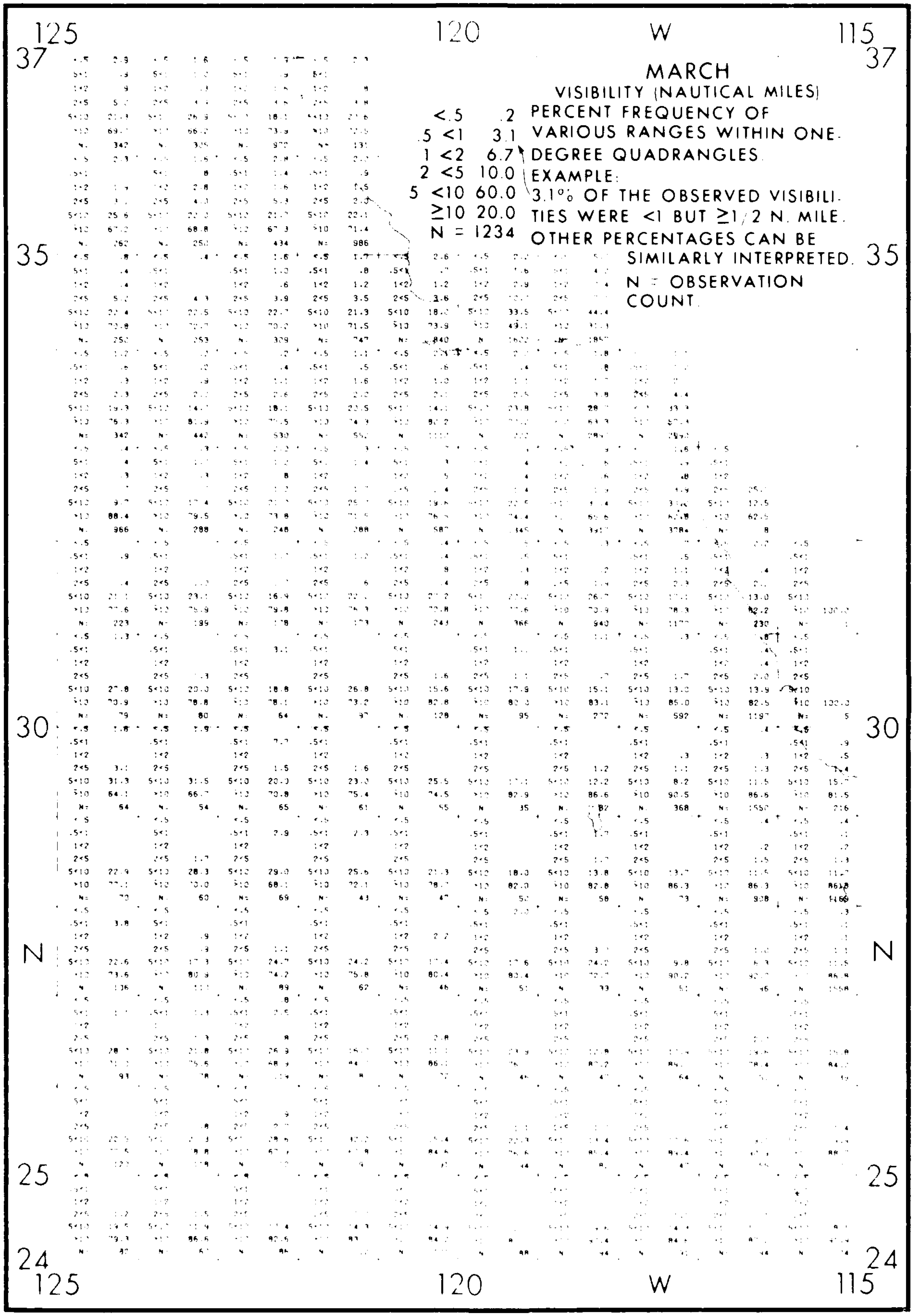
DASHED LINE - LOW CLOUD AMOUNT ≥5/8



MARCH

PRECIPITATION

PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION



MARCH

VISIBILITY (NAUTICAL MILES)

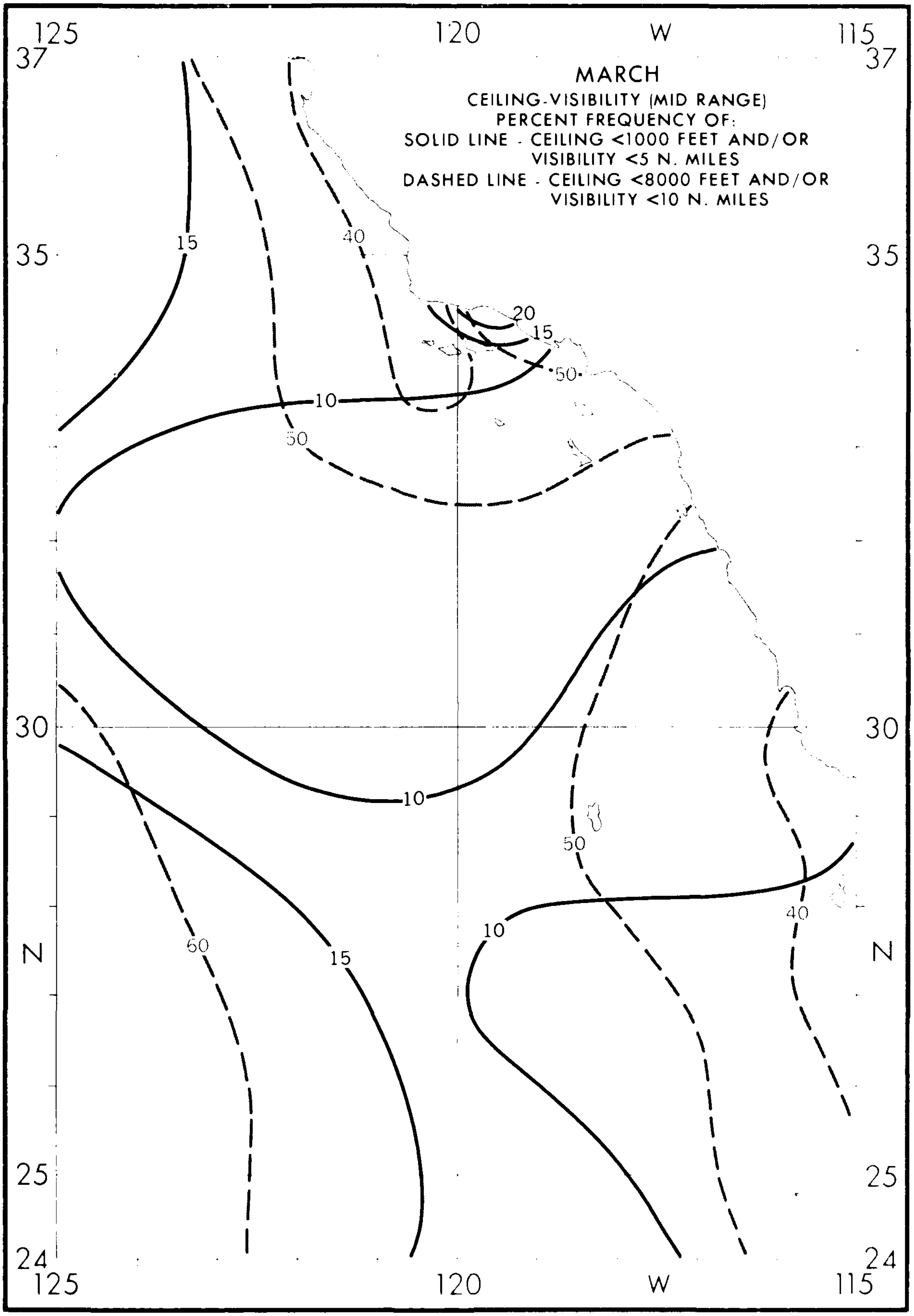
PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE DEGREE QUADRANGLES.

EXAMPLE:

<.5	.2
.5 <1	3.1
1 <2	6.7
2 <5	10.0
5 <10	60.0
≥10	20.0
N =	1234

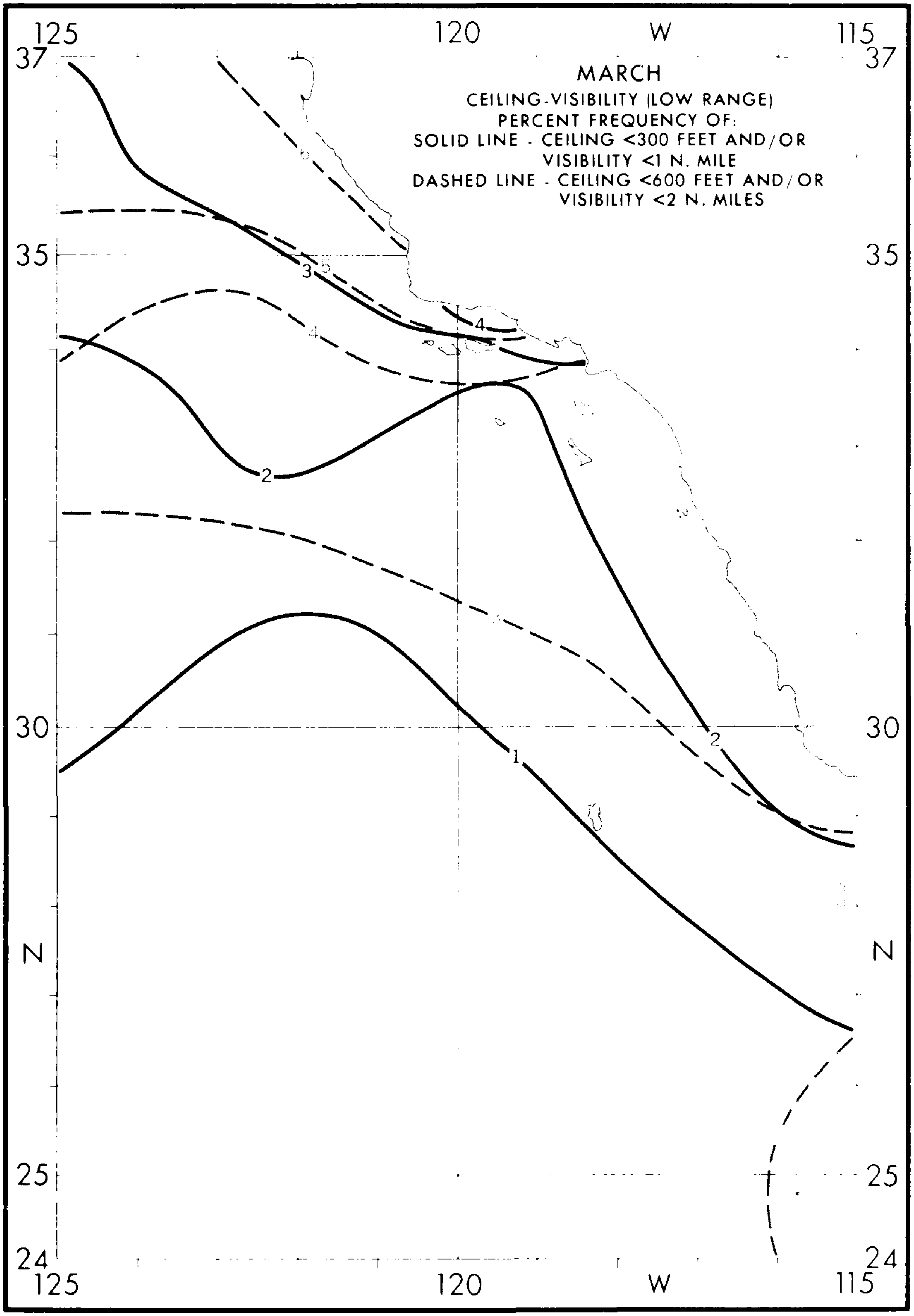
3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.

N = OBSERVATION COUNT.



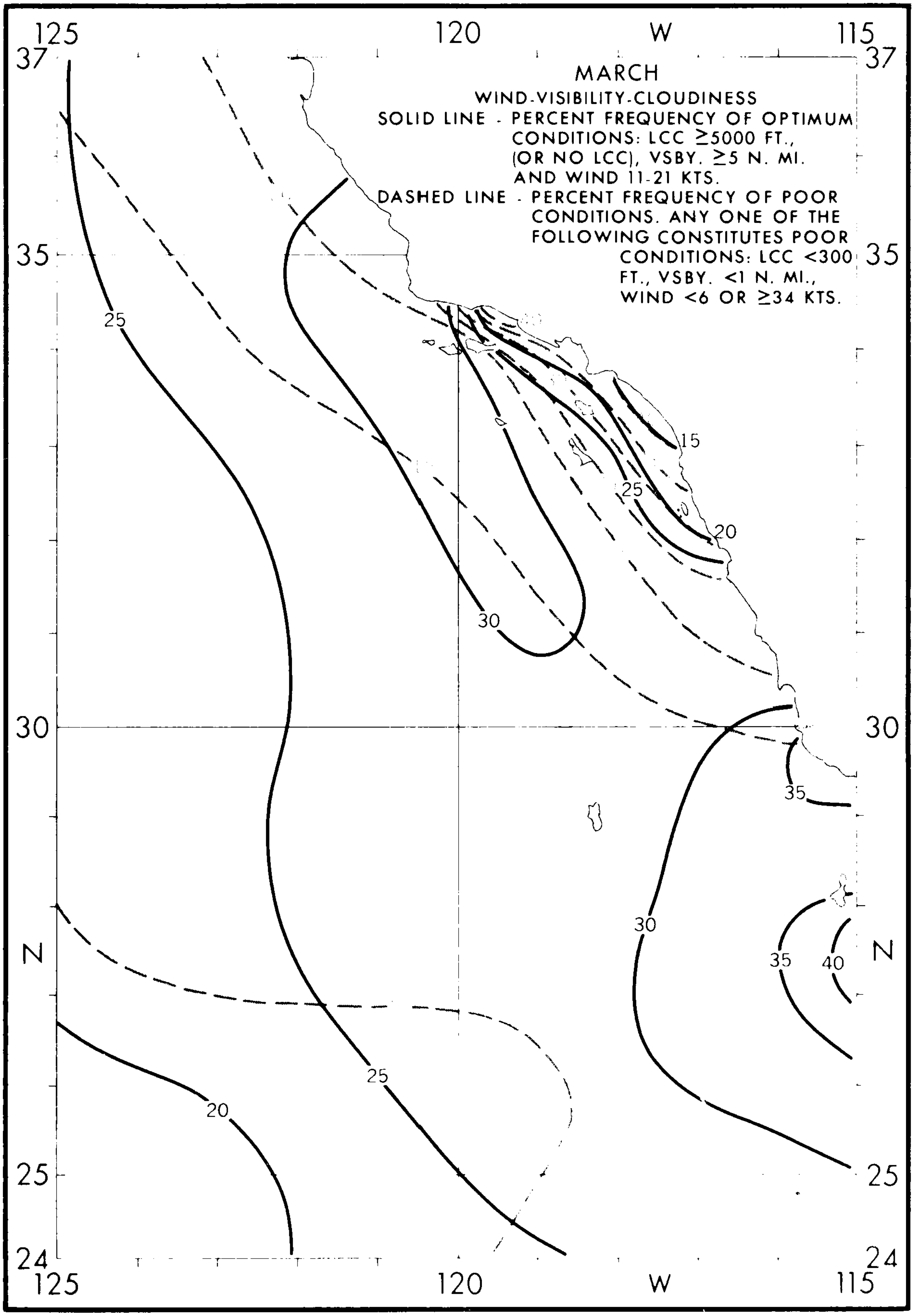
MARCH

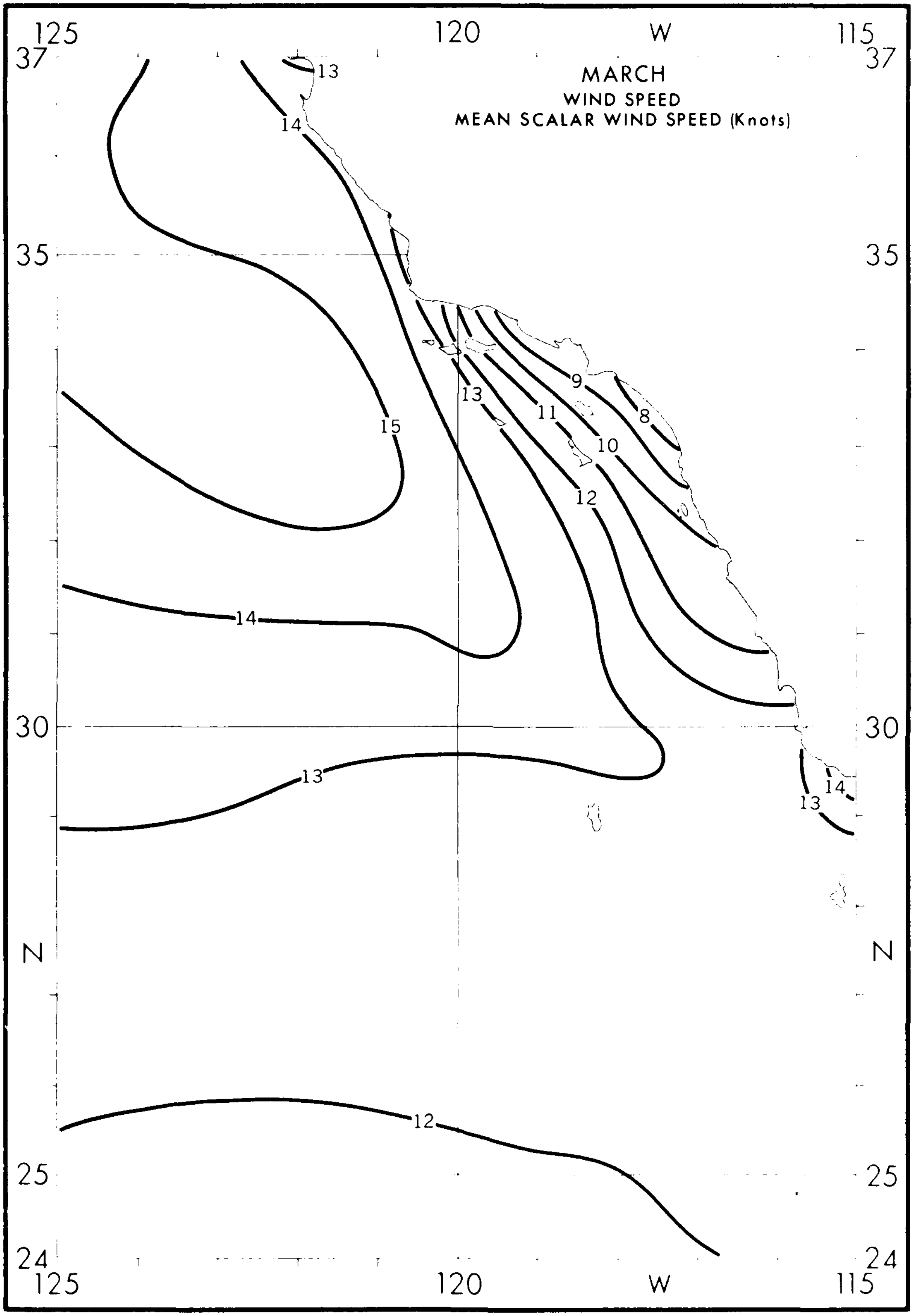
CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR
VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR
VISIBILITY <10 N. MILES



MARCH

CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES

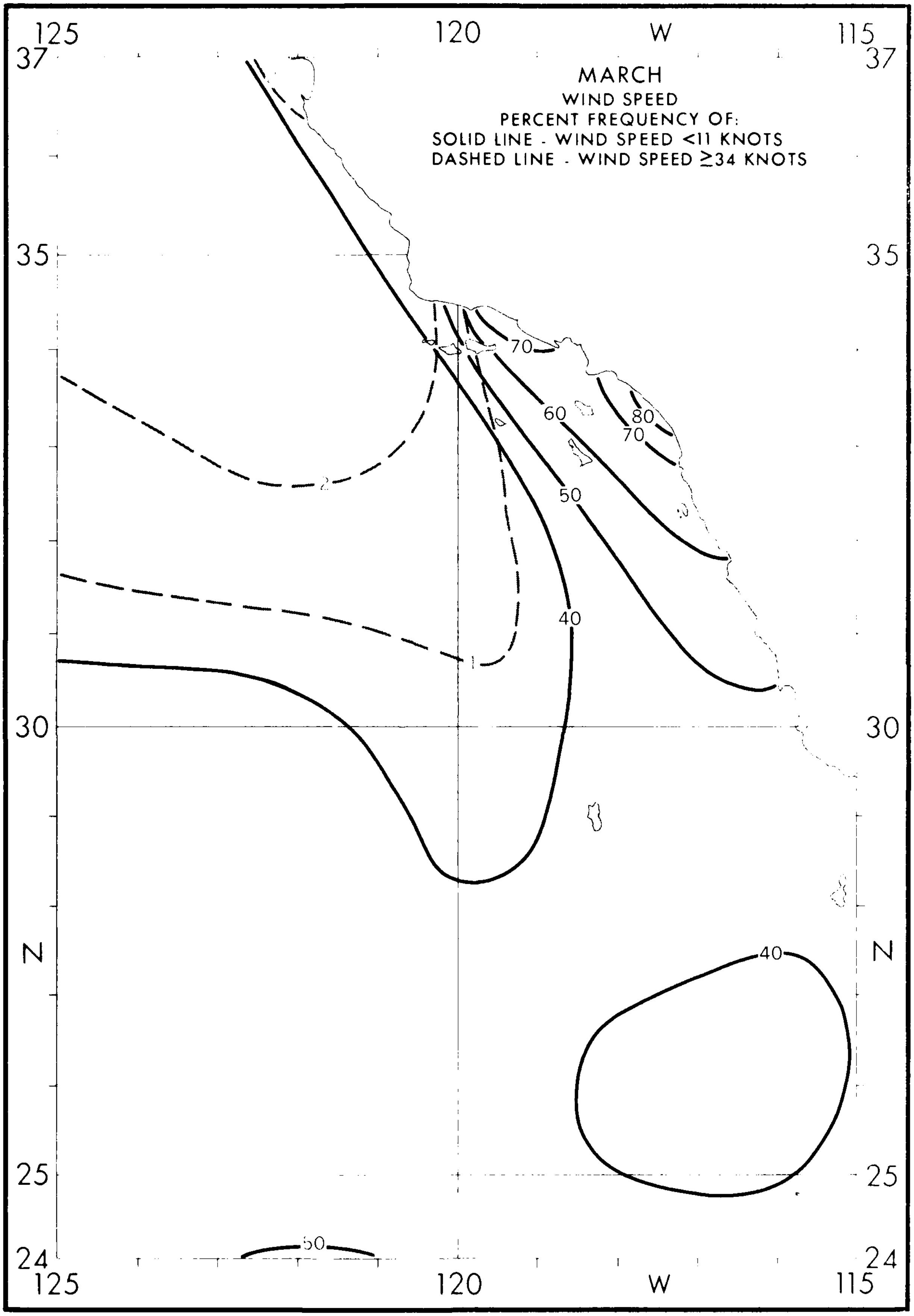

MARCH
WIND-VISIBILITY-CLOUDINESS
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.
DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.
125
120
W
115
37
35
30
N
25
24
15
20
25
30
35
40

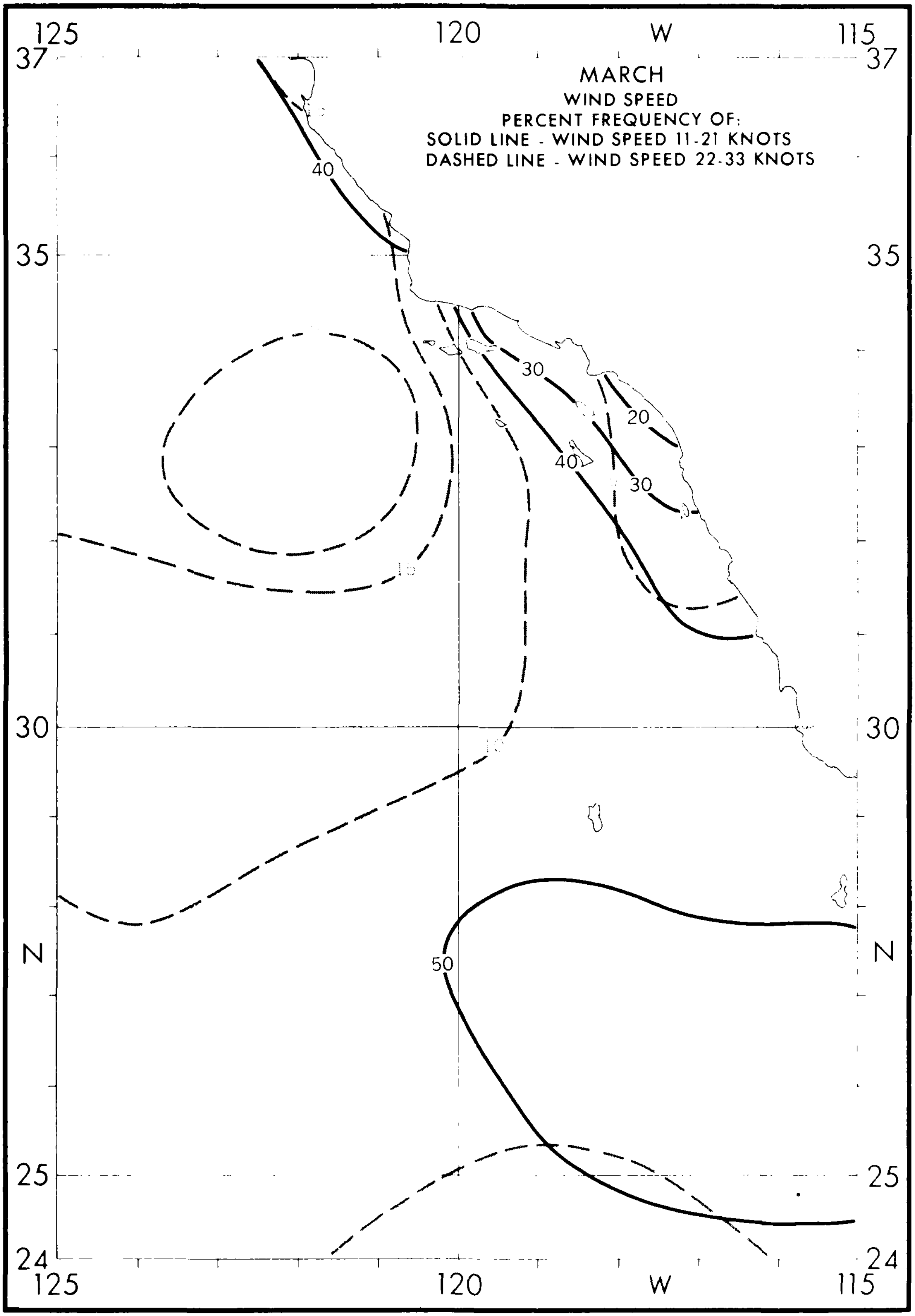


MARCH

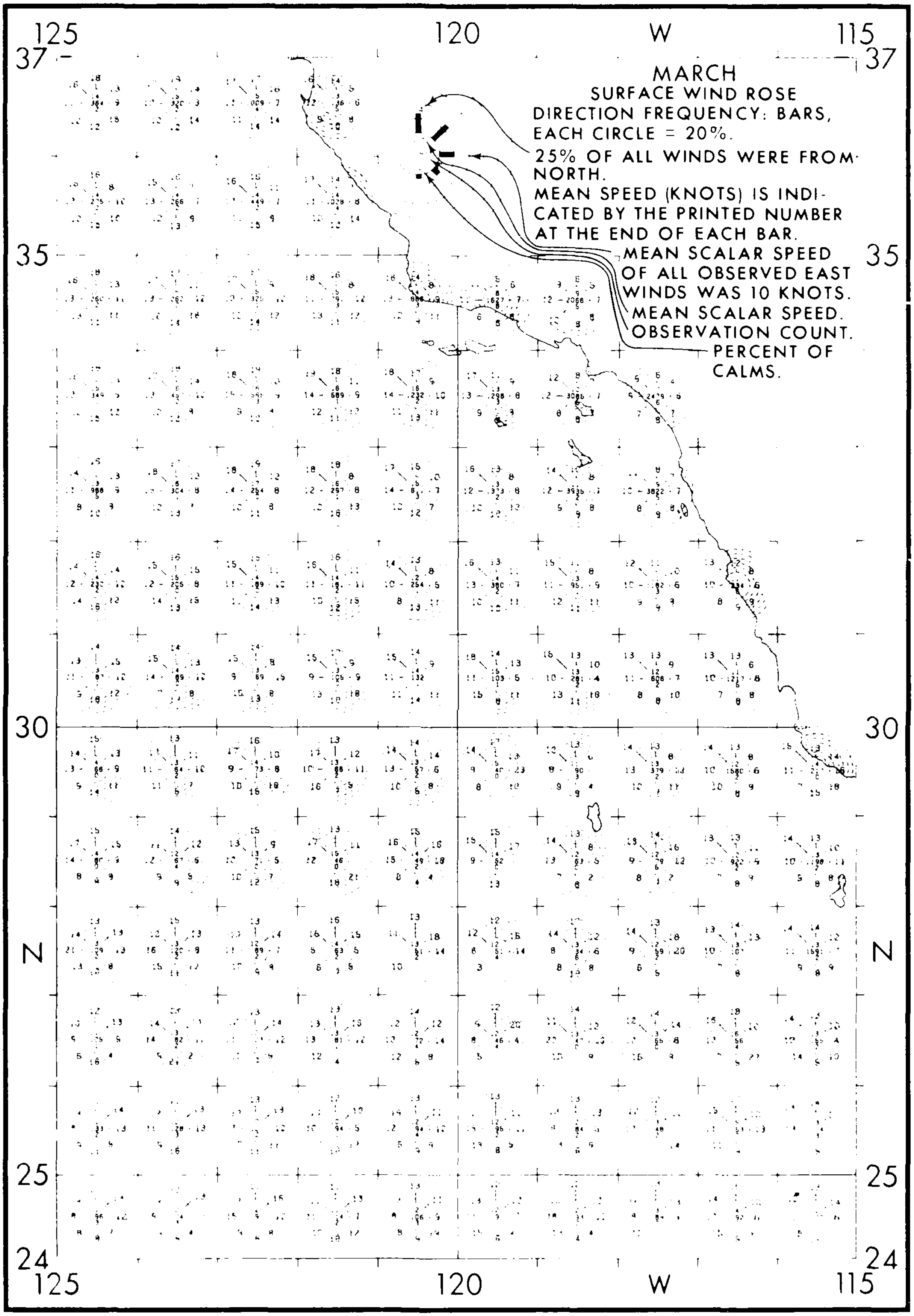
WIND SPEED

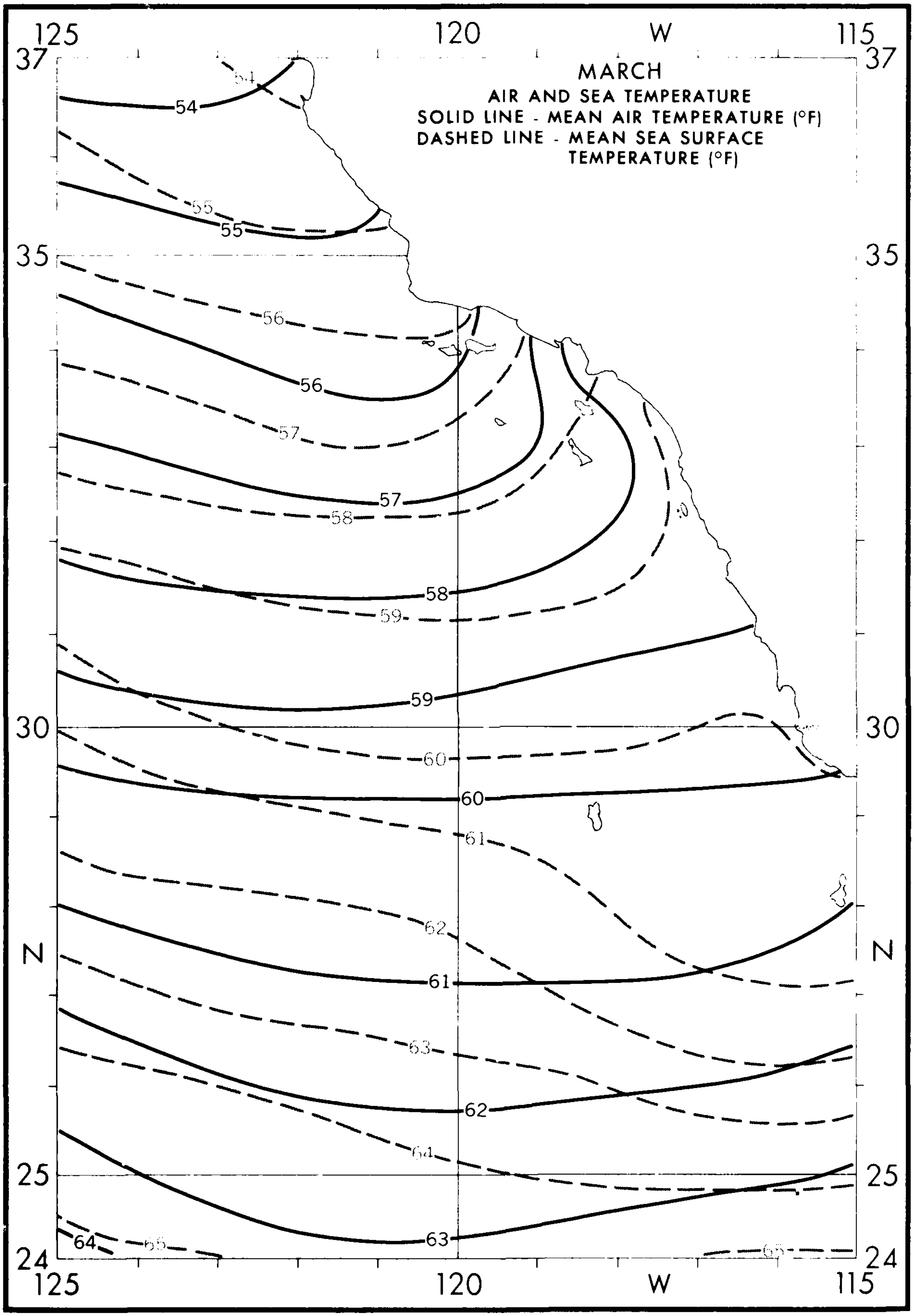
MEAN SCALAR WIND SPEED (Knots)


MARCH
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS
125
120
W
115
37
35
30
N
25
24
70
60
80
70
50
40
2
1
40
50



MARCH
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED 11-21 KNOTS
DASHED LINE - WIND SPEED 22-33 KNOTS


MARCH
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.
125
120
W
115
37
35
30
25
24
N

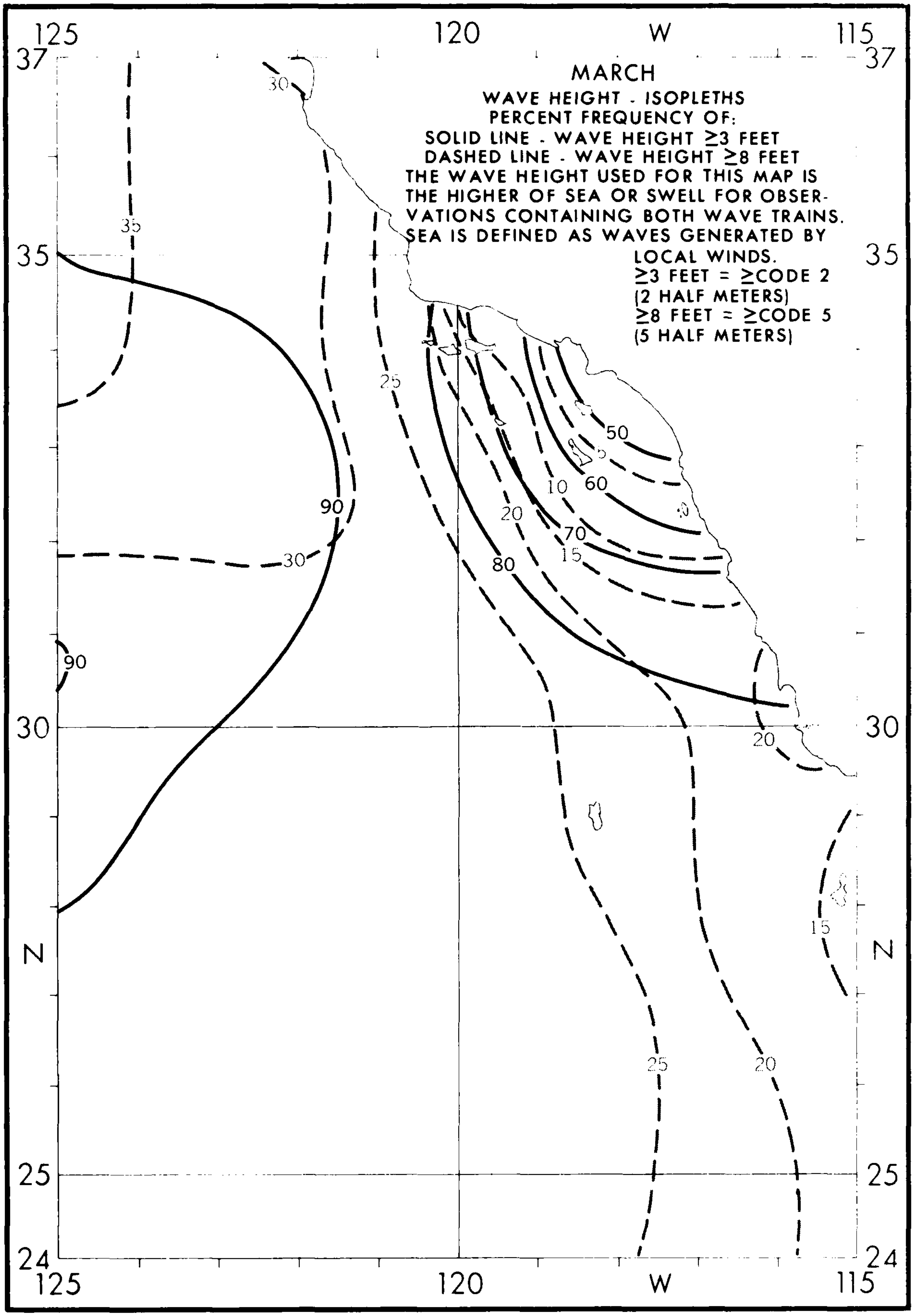


MARCH

AIR AND SEA TEMPERATURE

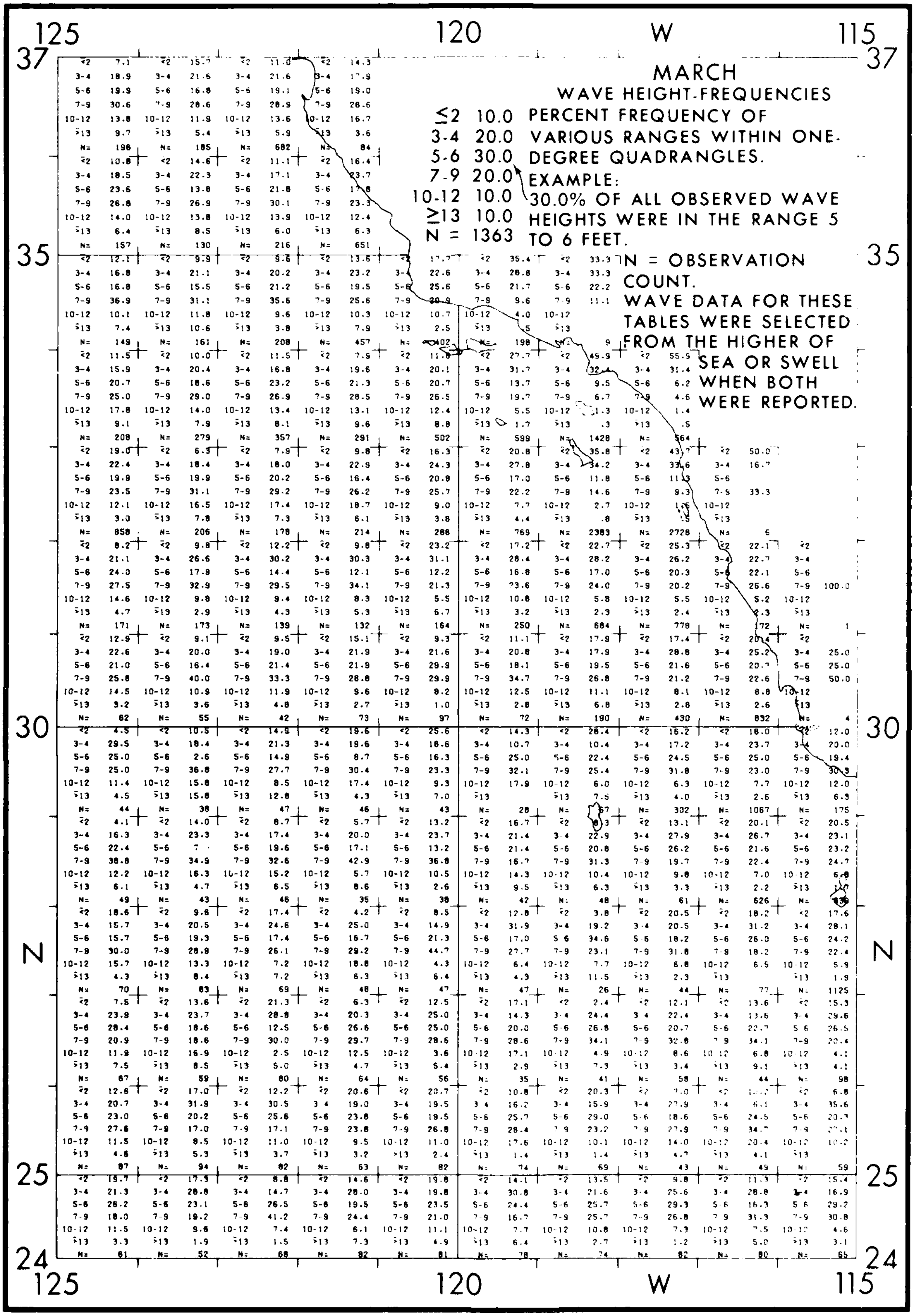
SOLID LINE - MEAN AIR TEMPERATURE (°F)

DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)



MARCH

WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)



MARCH

WAVE HEIGHT-FREQUENCIES

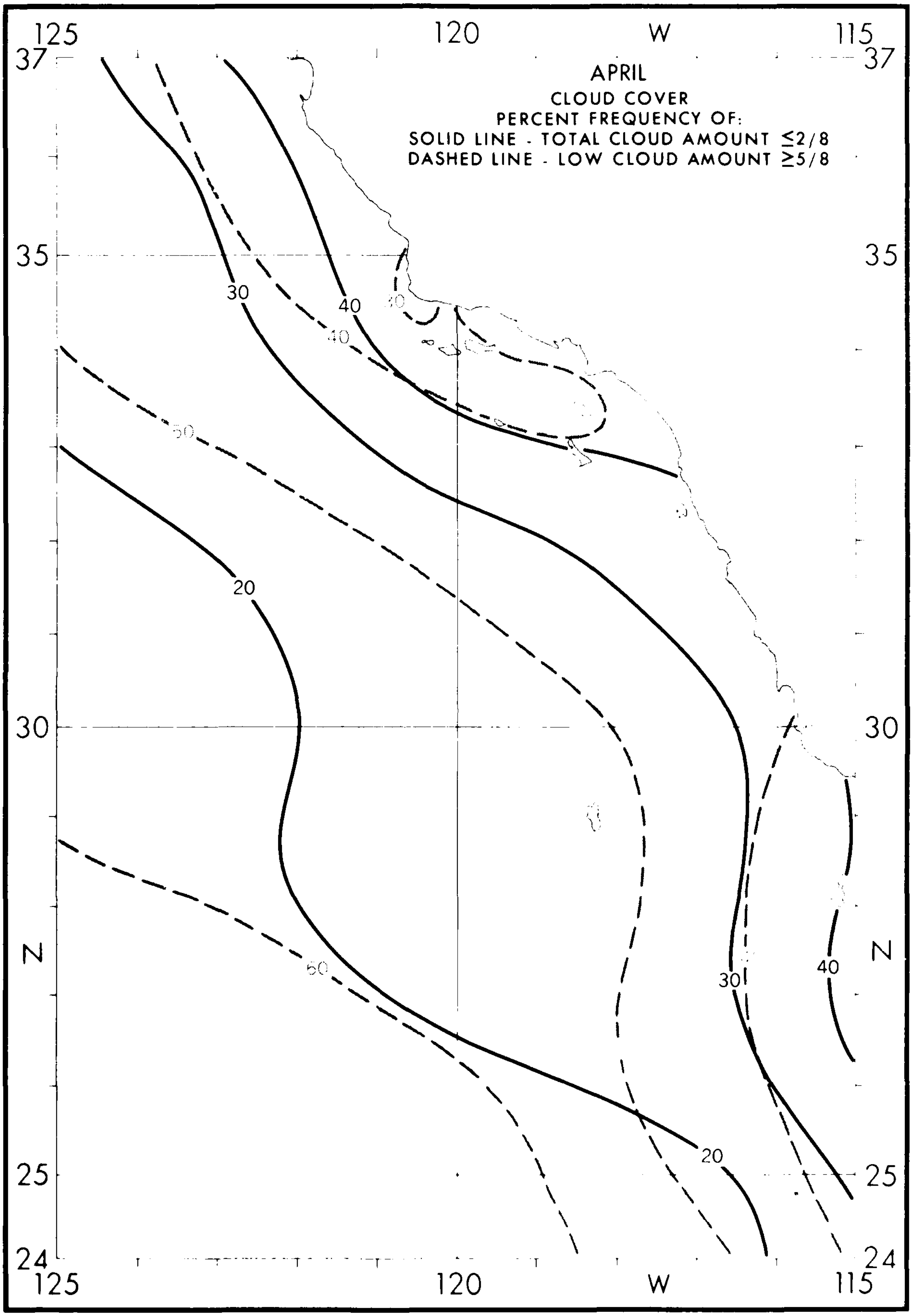
≤2	10.0
3-4	20.0
5-6	30.0
7-9	20.0
10-12	10.0
≥13	10.0
N =	1363

PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

EXAMPLE: 30.0% OF ALL OBSERVED WAVE HEIGHTS WERE IN THE RANGE 5 TO 6 FEET.

N = OBSERVATION COUNT.

WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.



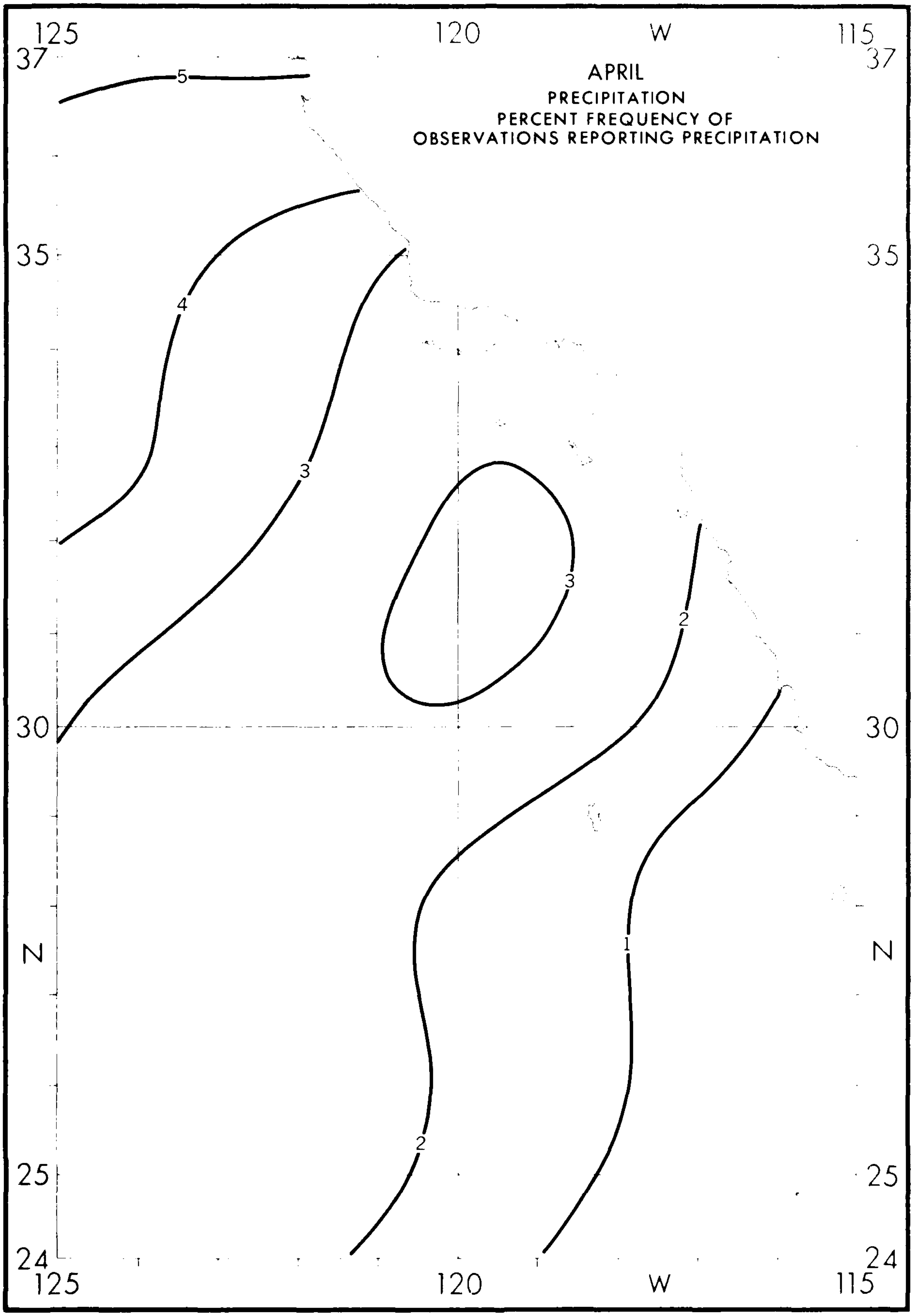
APRIL

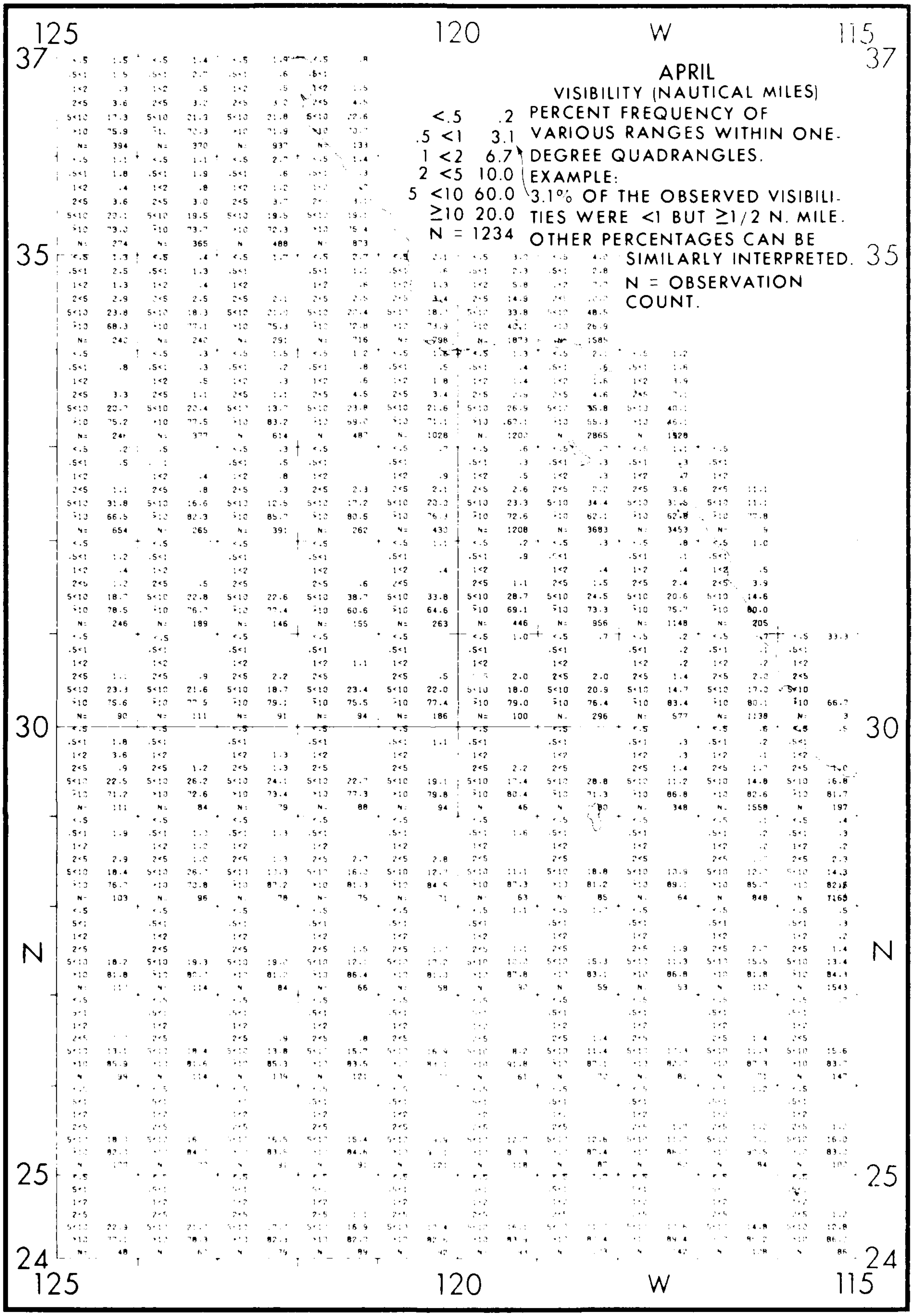
CLOUD COVER

PERCENT FREQUENCY OF:

SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8

DASHED LINE - LOW CLOUD AMOUNT ≥5/8

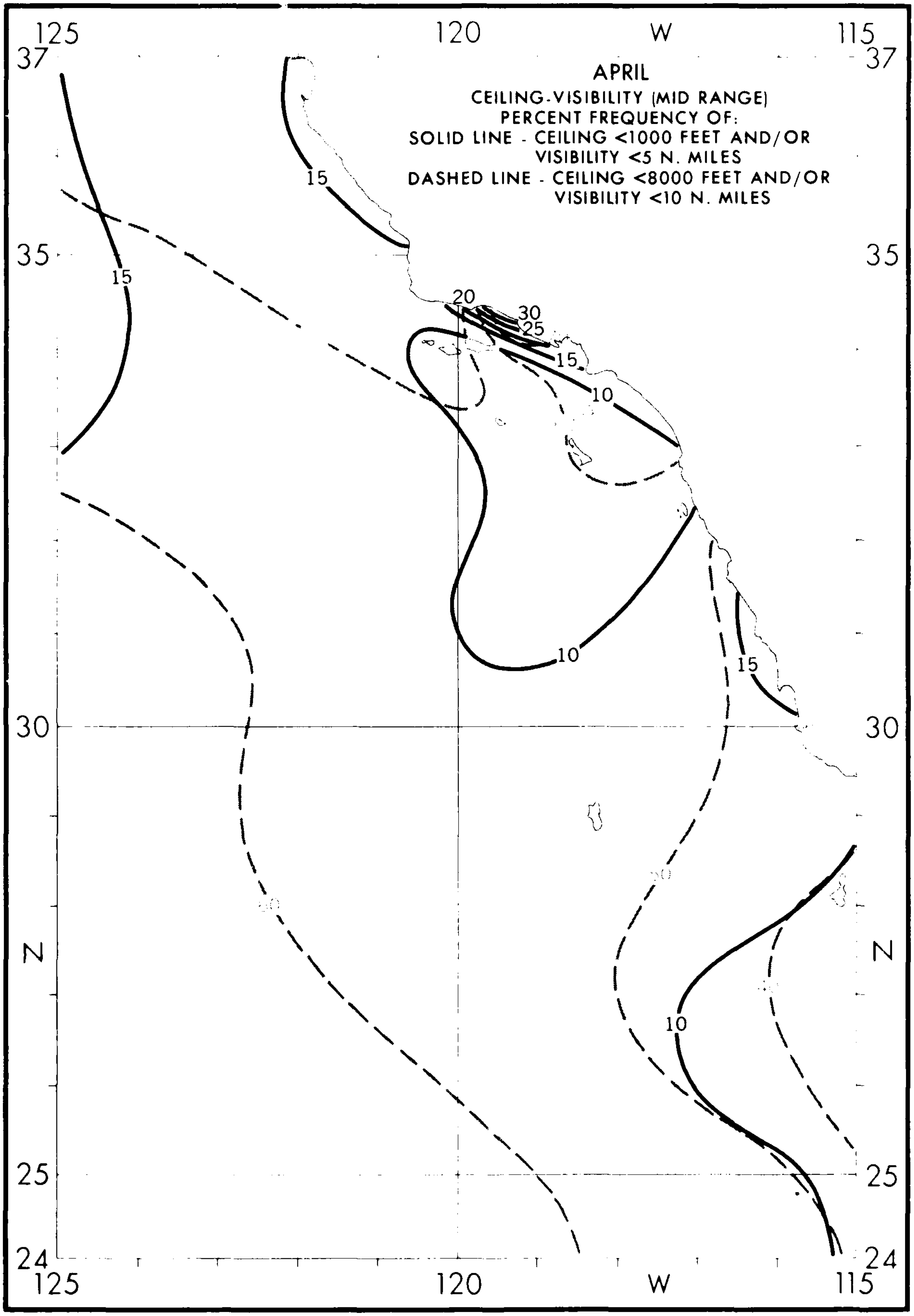

APRIL
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
125
120
W
115
37
35
30
N
25
24
5
4
3
3
2
2
1

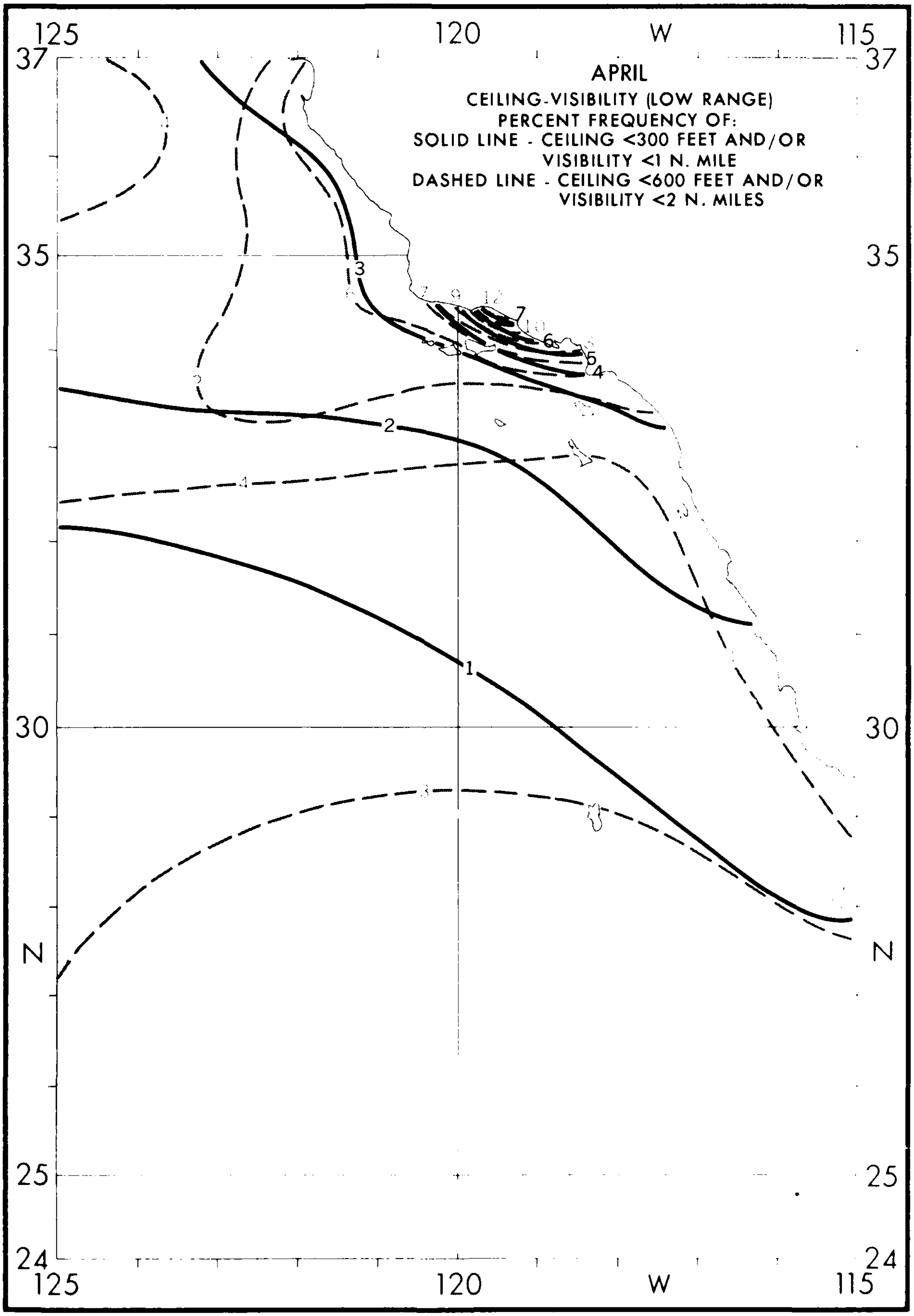


APRIL

VISIBILITY (NAUTICAL MILES)

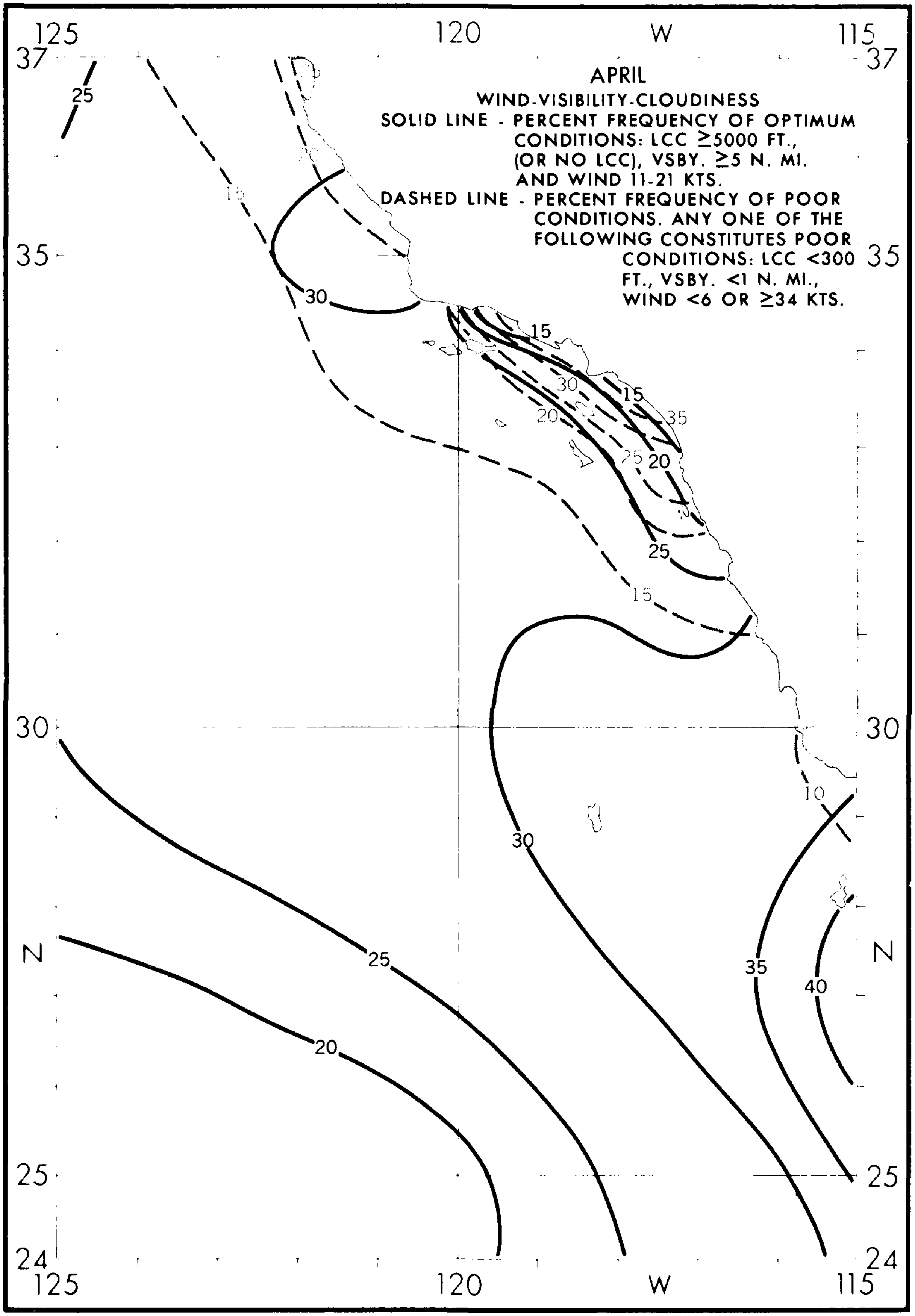
<.5	.2	PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.
.5 <1	3.1	EXAMPLE:
1 <2	6.7	3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE.
2 <5	10.0	OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.
5 <10	60.0	
≥10	20.0	
N = 1234		N = OBSERVATION COUNT.


125
120
W
115
37
37
APRIL
CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR VISIBILITY <10 N. MILES
15
35
15
35
20
30
25
15
10
10
15
30
30
N
N
10
25
25
24
24
125
120
W
115



APRIL

CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES

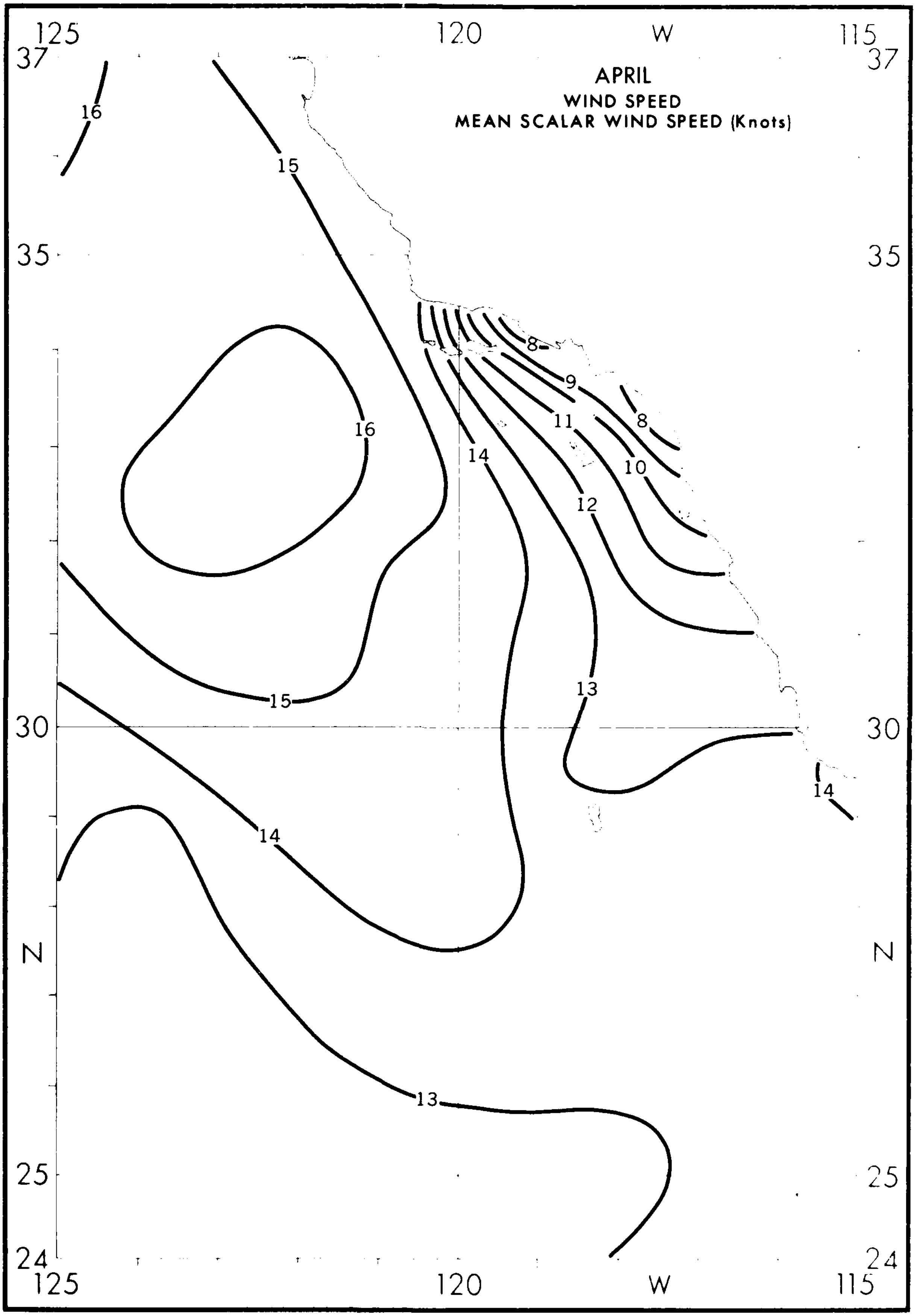


APRIL

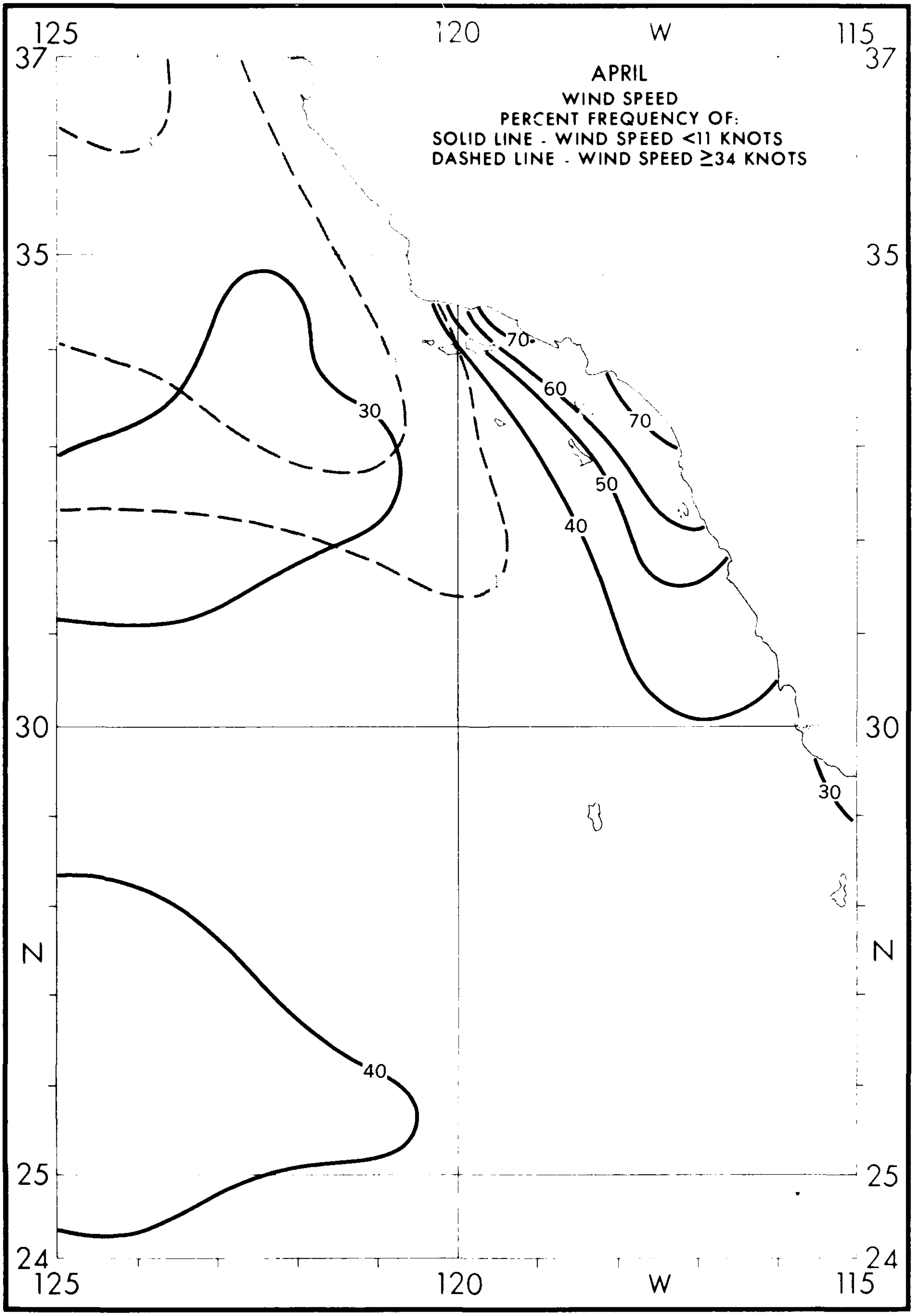
WIND-VISIBILITY-CLOUDINESS

SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.

DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.



APRIL
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)



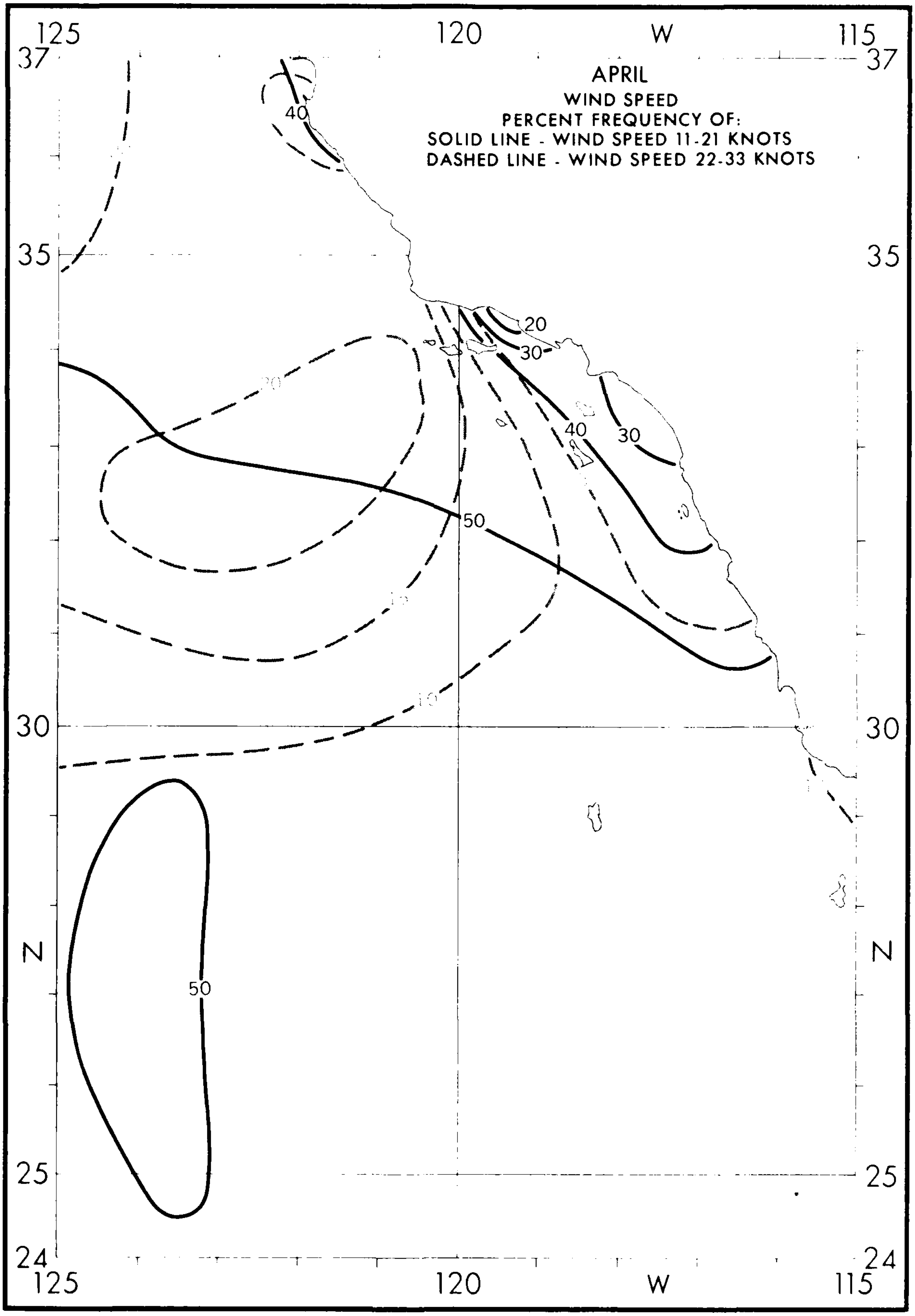
APRIL

WIND SPEED

PERCENT FREQUENCY OF:

SOLID LINE - WIND SPEED <11 KNOTS

DASHED LINE - WIND SPEED ≥34 KNOTS



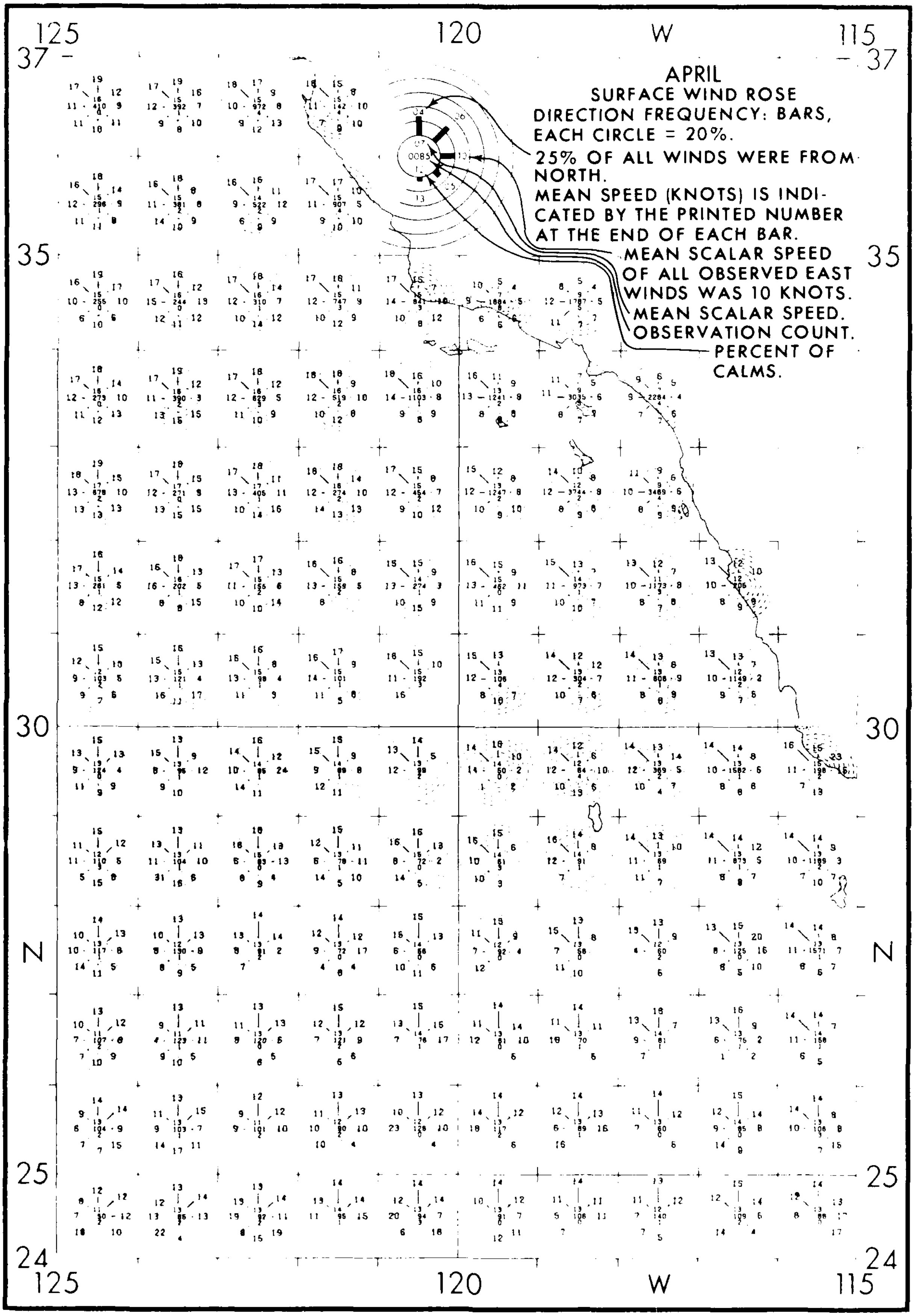
APRIL

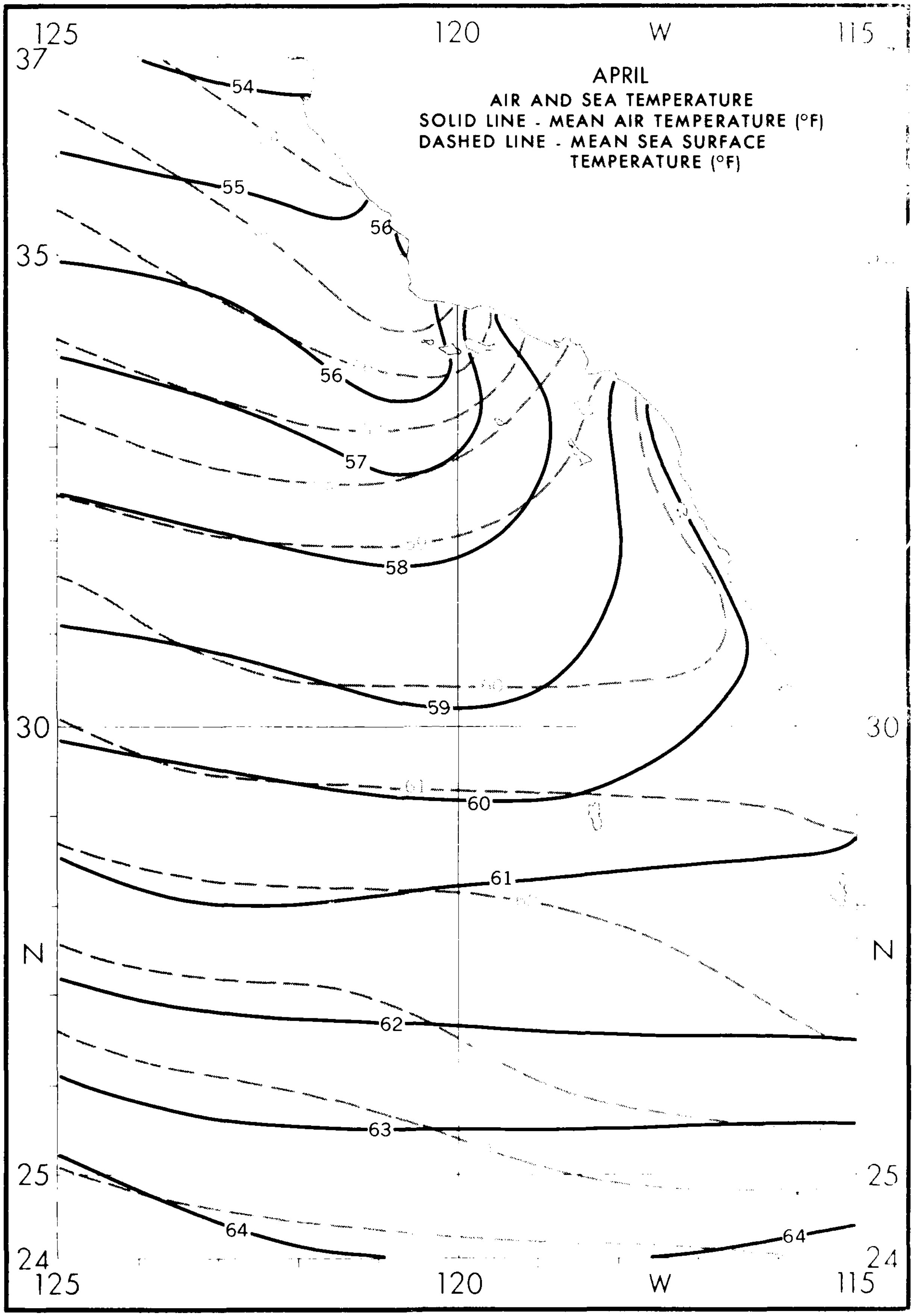
WIND SPEED

PERCENT FREQUENCY OF:

SOLID LINE - WIND SPEED 11-21 KNOTS

DASHED LINE - WIND SPEED 22-33 KNOTS


APRIL
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.
125
120
W
115
37
35
30
N
25
24

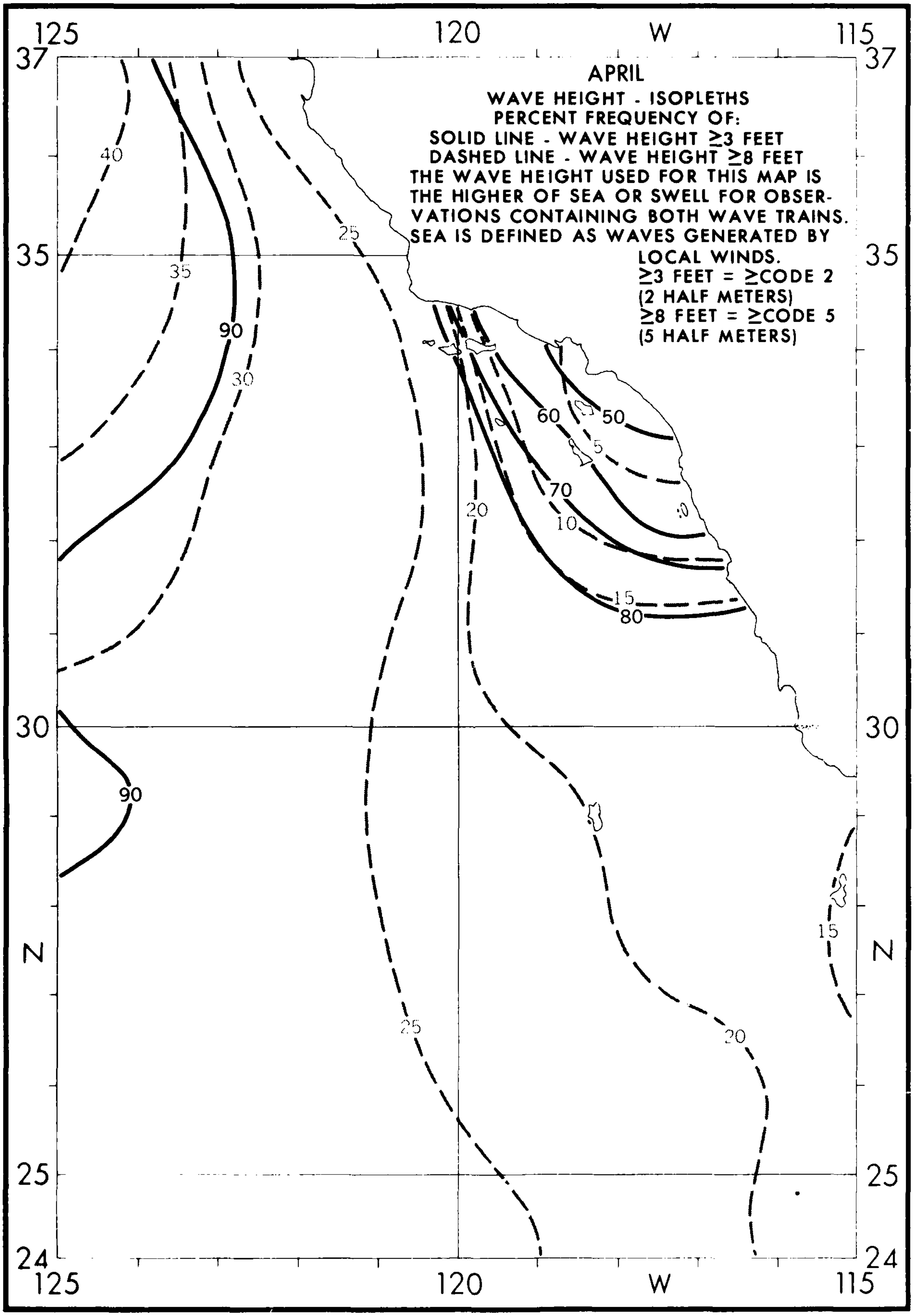


APRIL

AIR AND SEA TEMPERATURE

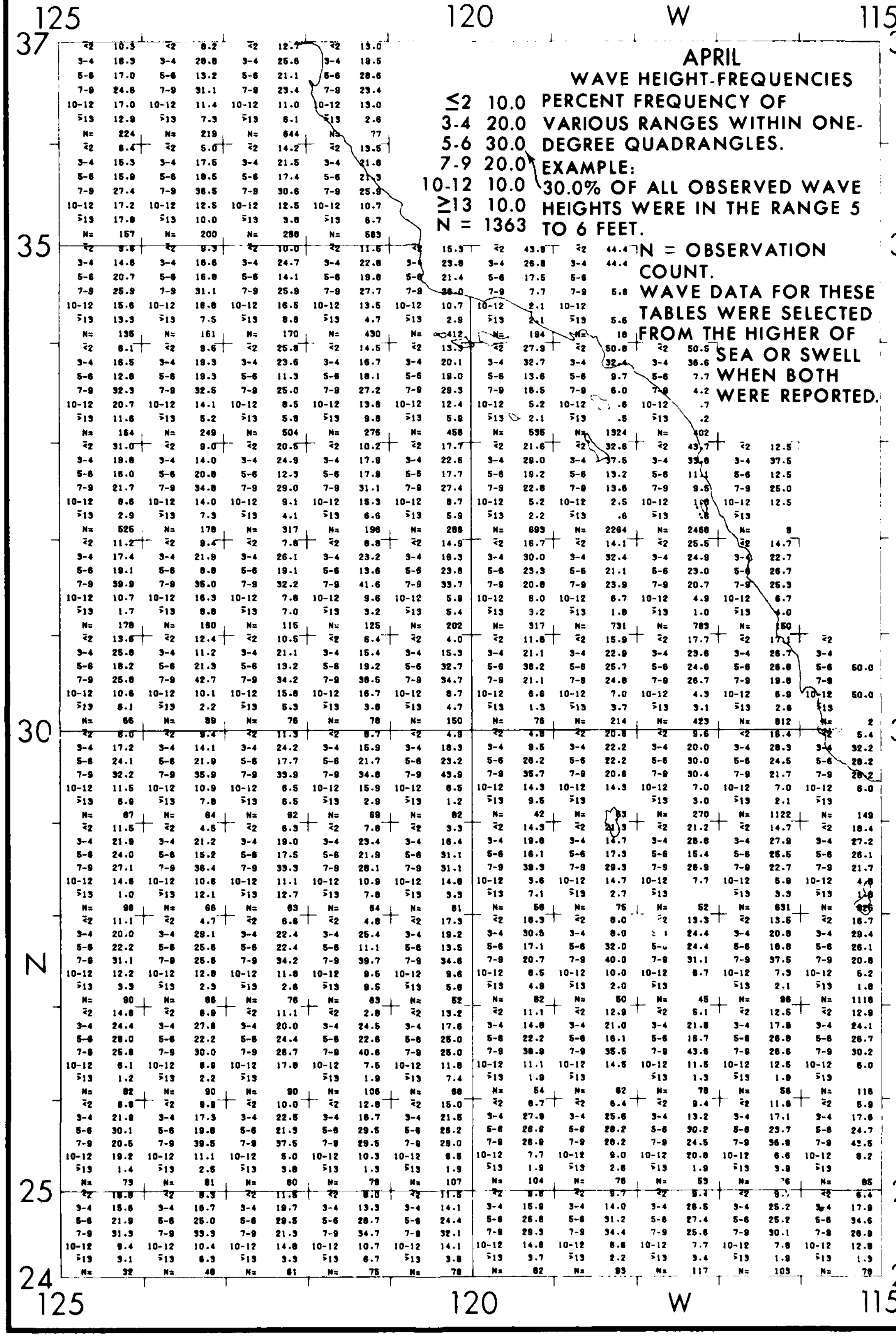
SOLID LINE - MEAN AIR TEMPERATURE (°F)

DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)



APRIL

WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2 (2 HALF METERS)
≥8 FEET = ≥CODE 5 (5 HALF METERS)



APRIL

WAVE HEIGHT-FREQUENCIES

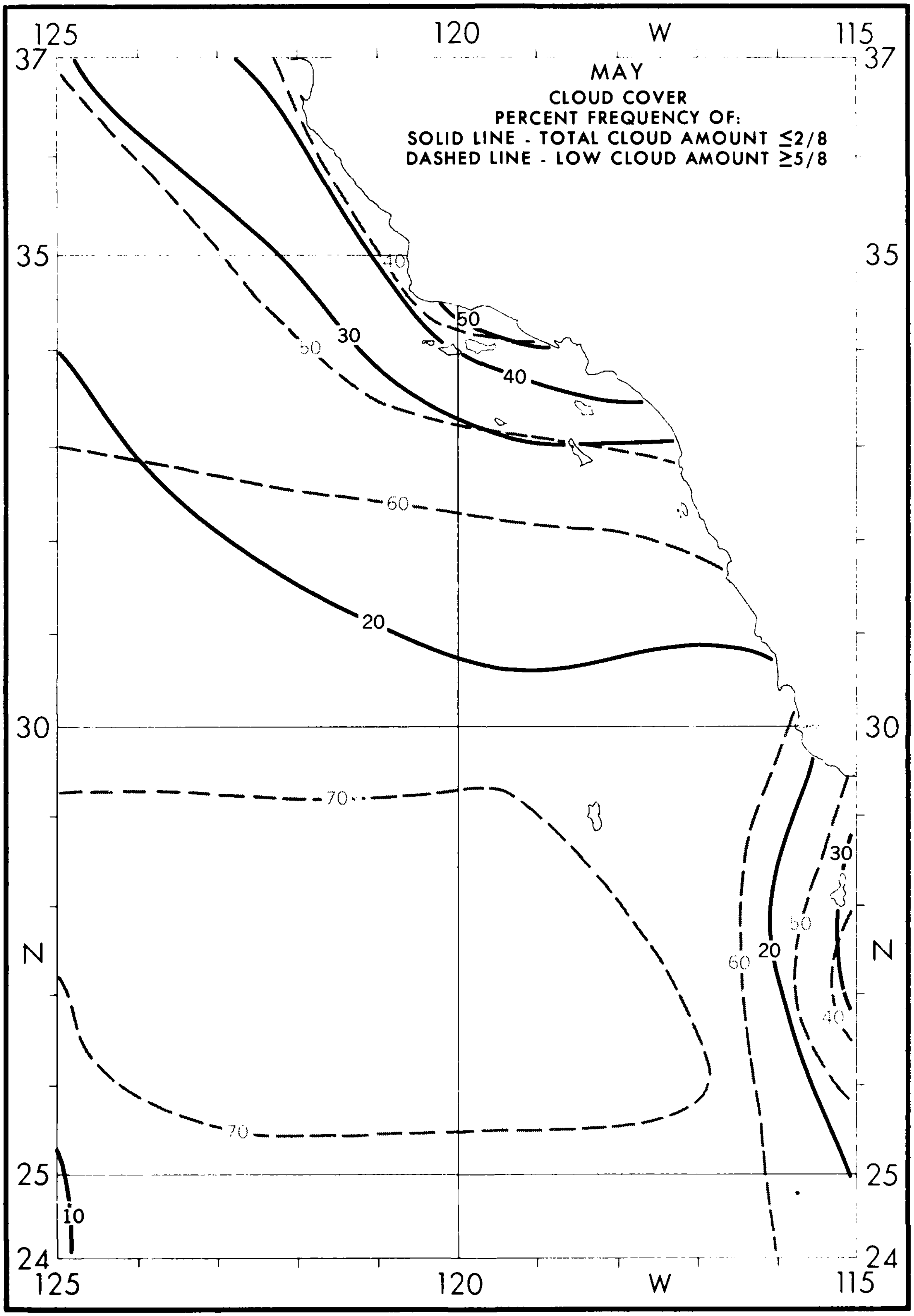
≤2 10.0
3-4 20.0
5-6 30.0
7-9 20.0
10-12 10.0
≥13 10.0
N = 1363

PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

EXAMPLE:
30.0% OF ALL OBSERVED WAVE HEIGHTS WERE IN THE RANGE 5 TO 6 FEET.

N = OBSERVATION COUNT.

WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.



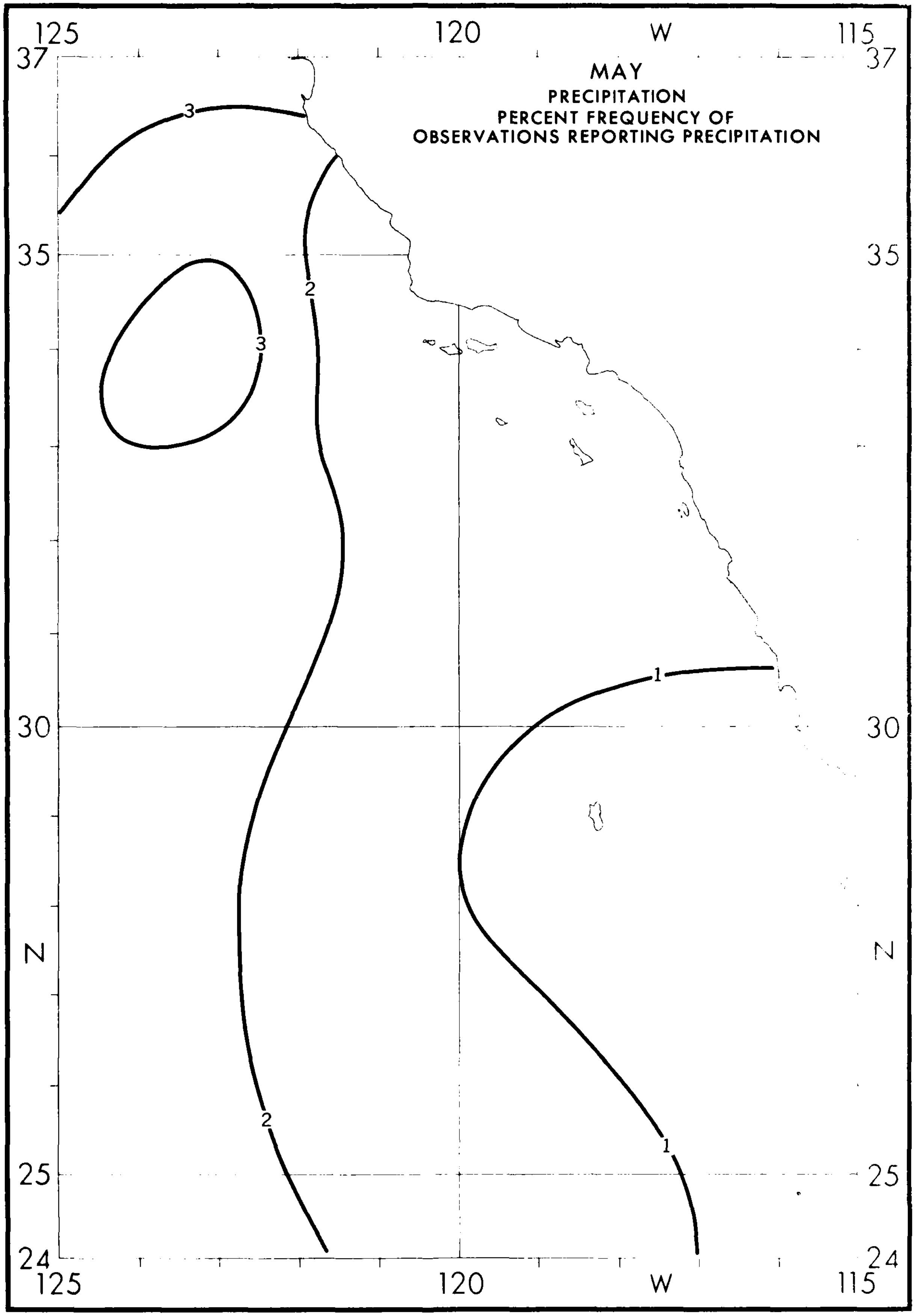
MAY

CLOUD COVER

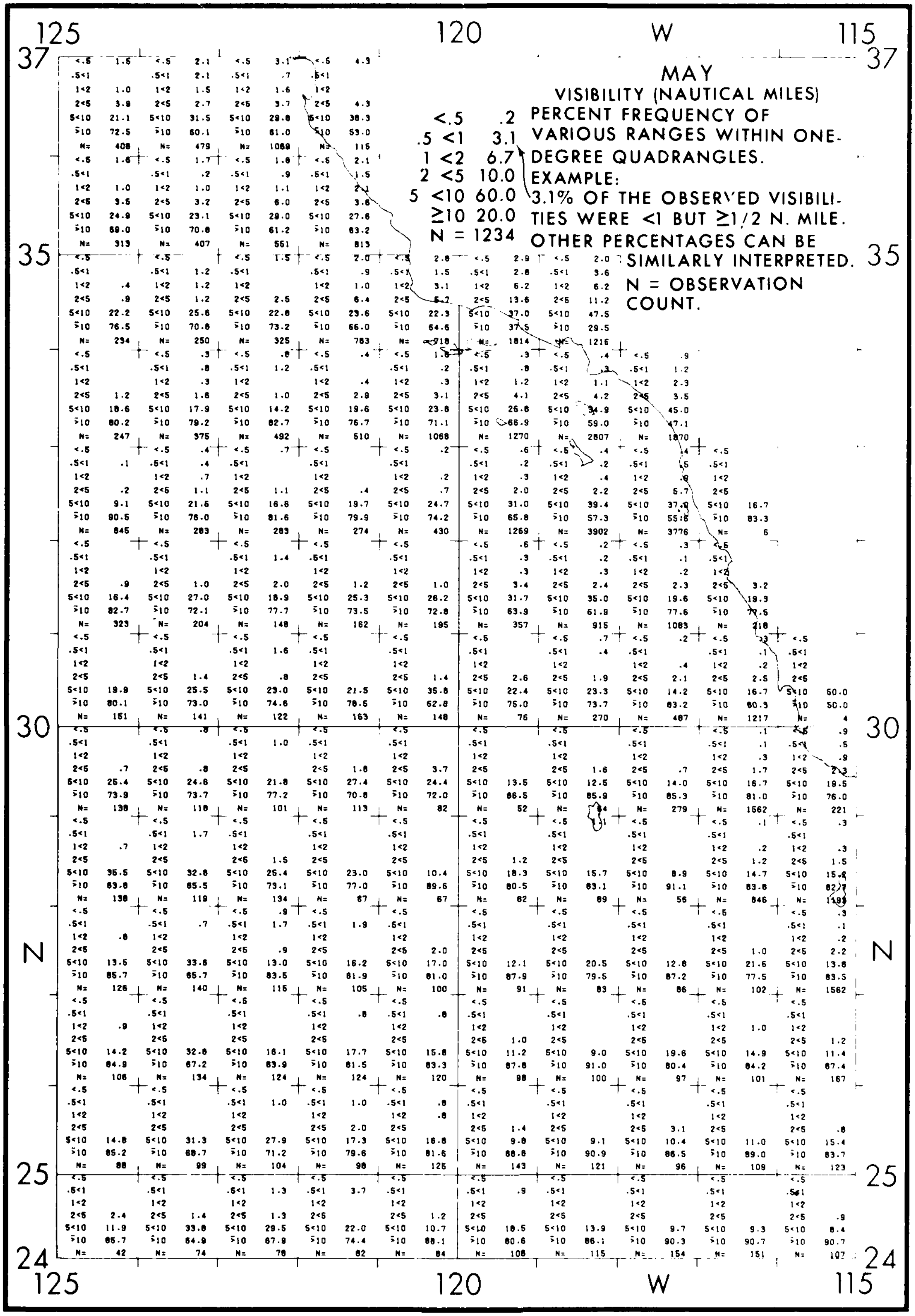
PERCENT FREQUENCY OF:

SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8

DASHED LINE - LOW CLOUD AMOUNT ≥5/8



MAY
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
125
120
W
115
37
35
30
N
25
24
3
3
2
2
1
1



MAY

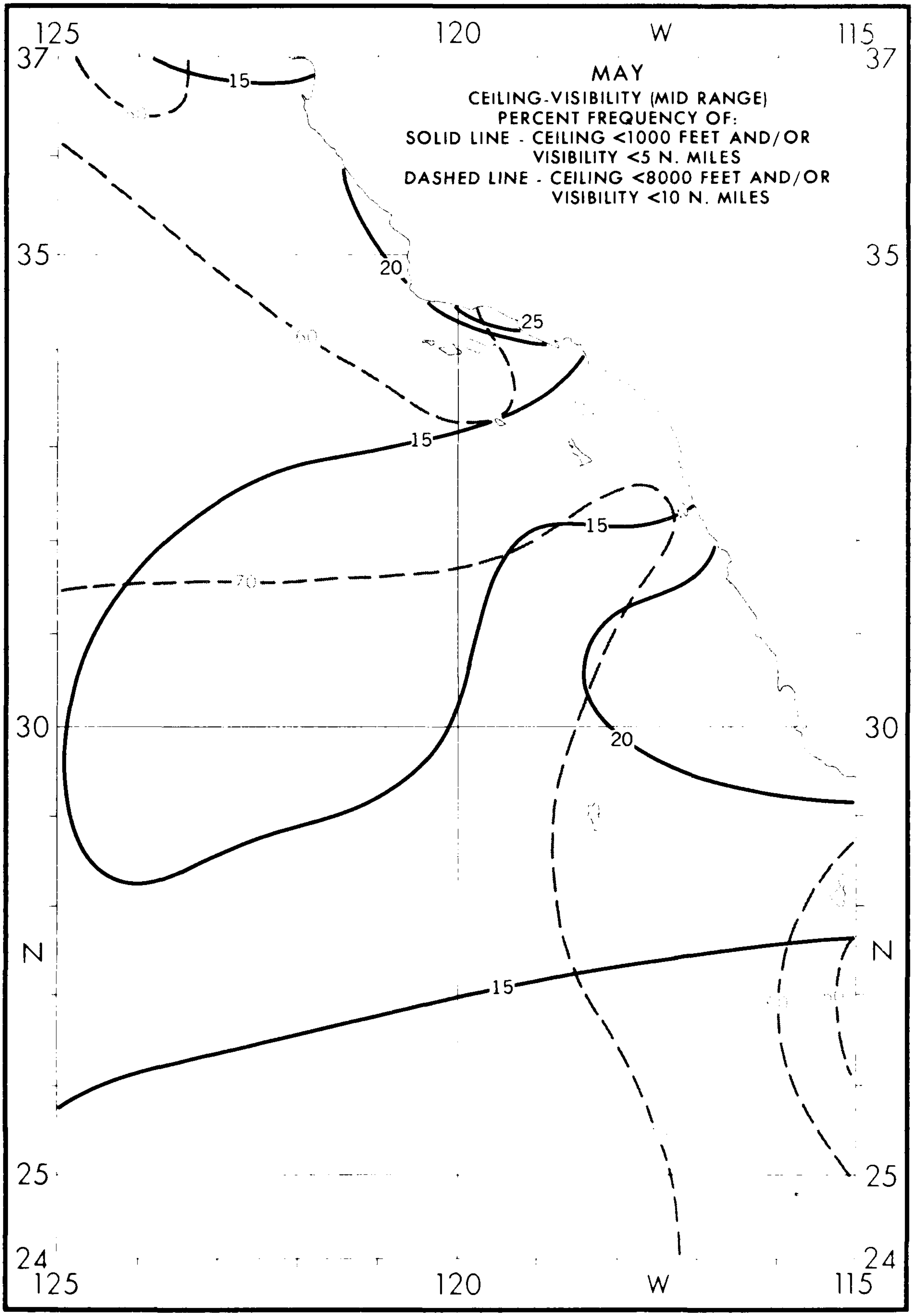
VISIBILITY (NAUTICAL MILES)

PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

EXAMPLE:

<.5	.2
.5 <1	3.1
1 <2	6.7
2 <5	10.0
5 <10	60.0
≥10	20.0
N =	1234

3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED. N = OBSERVATION COUNT.



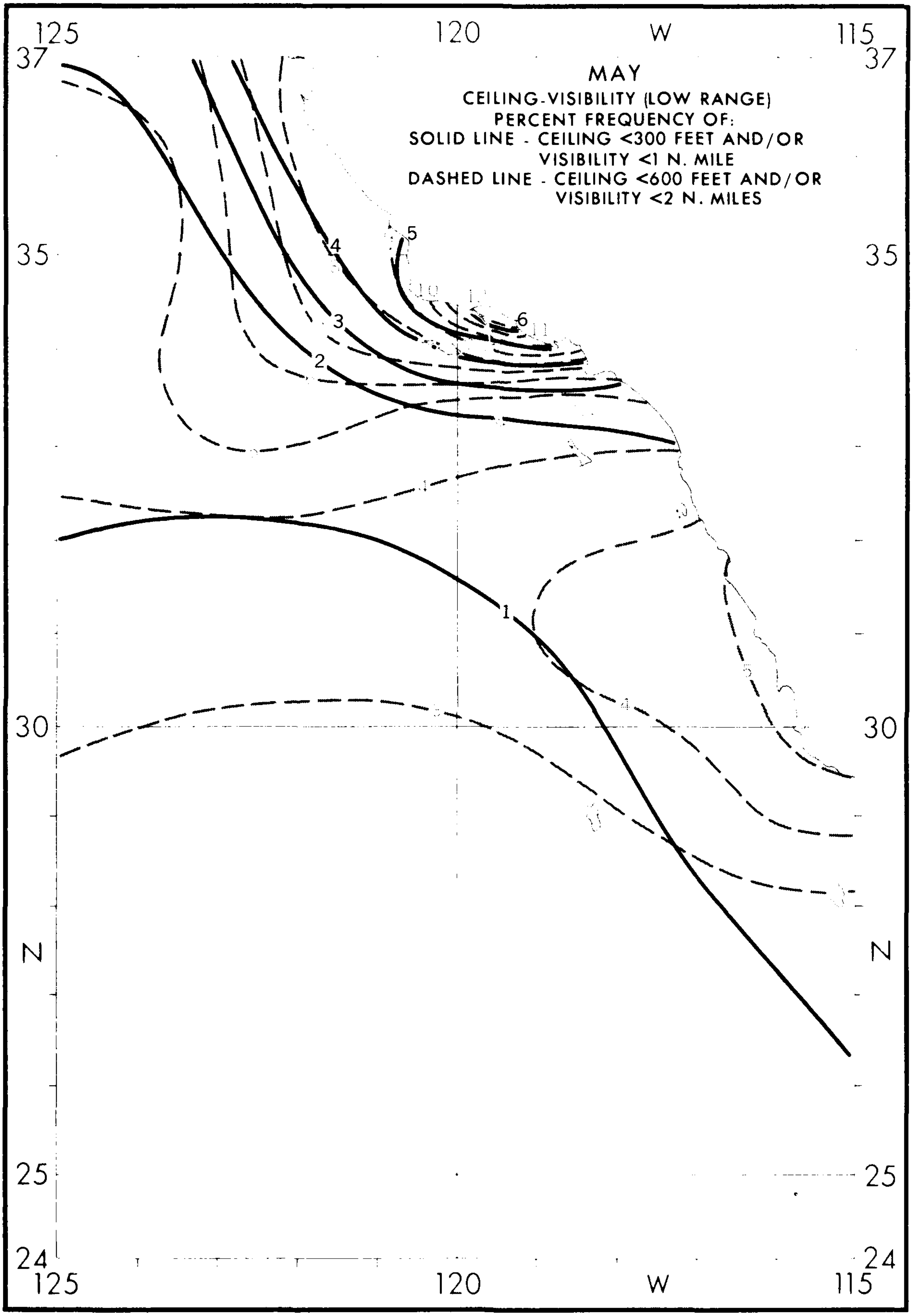
MAY

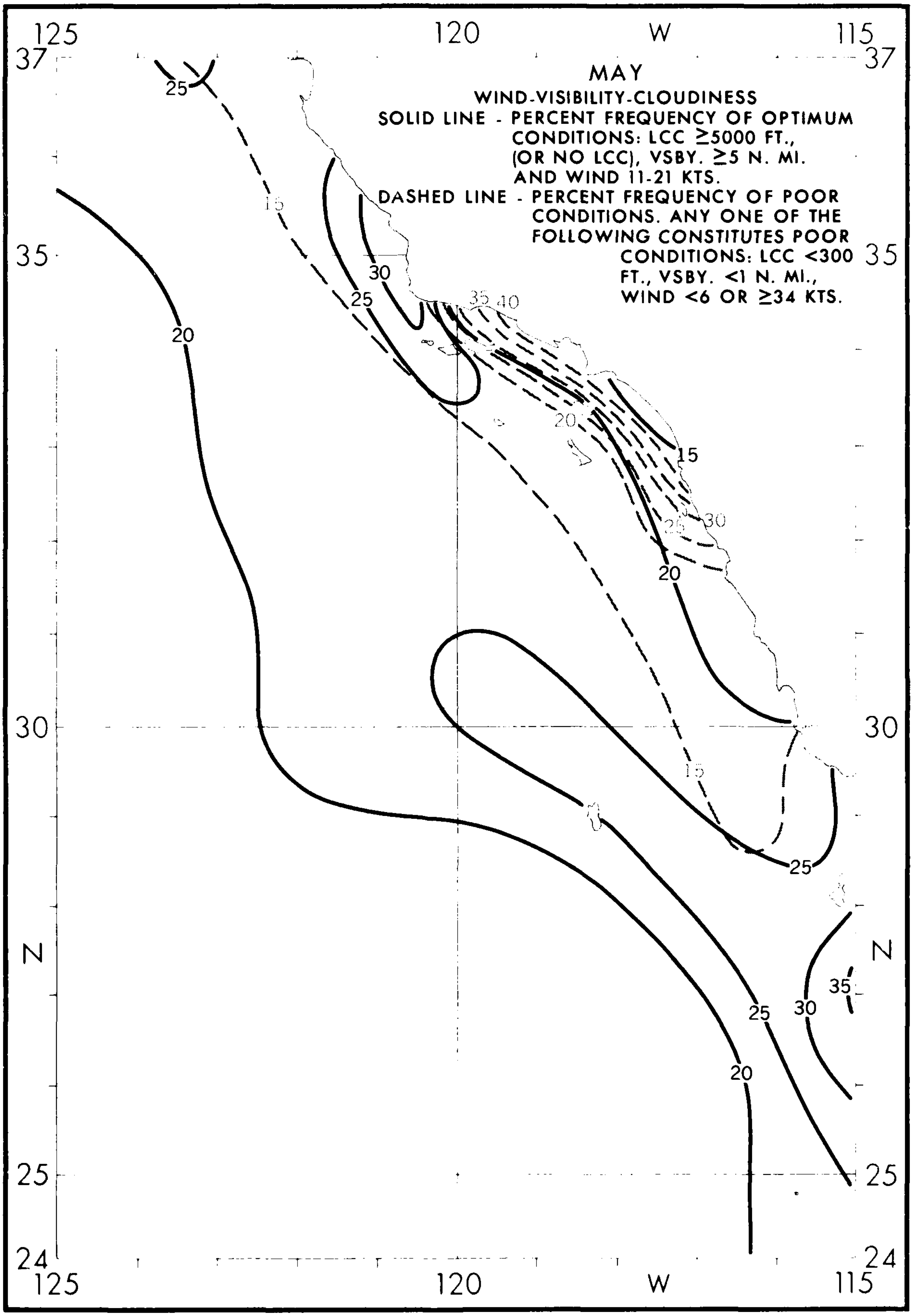
CEILING-VISIBILITY (MID RANGE)

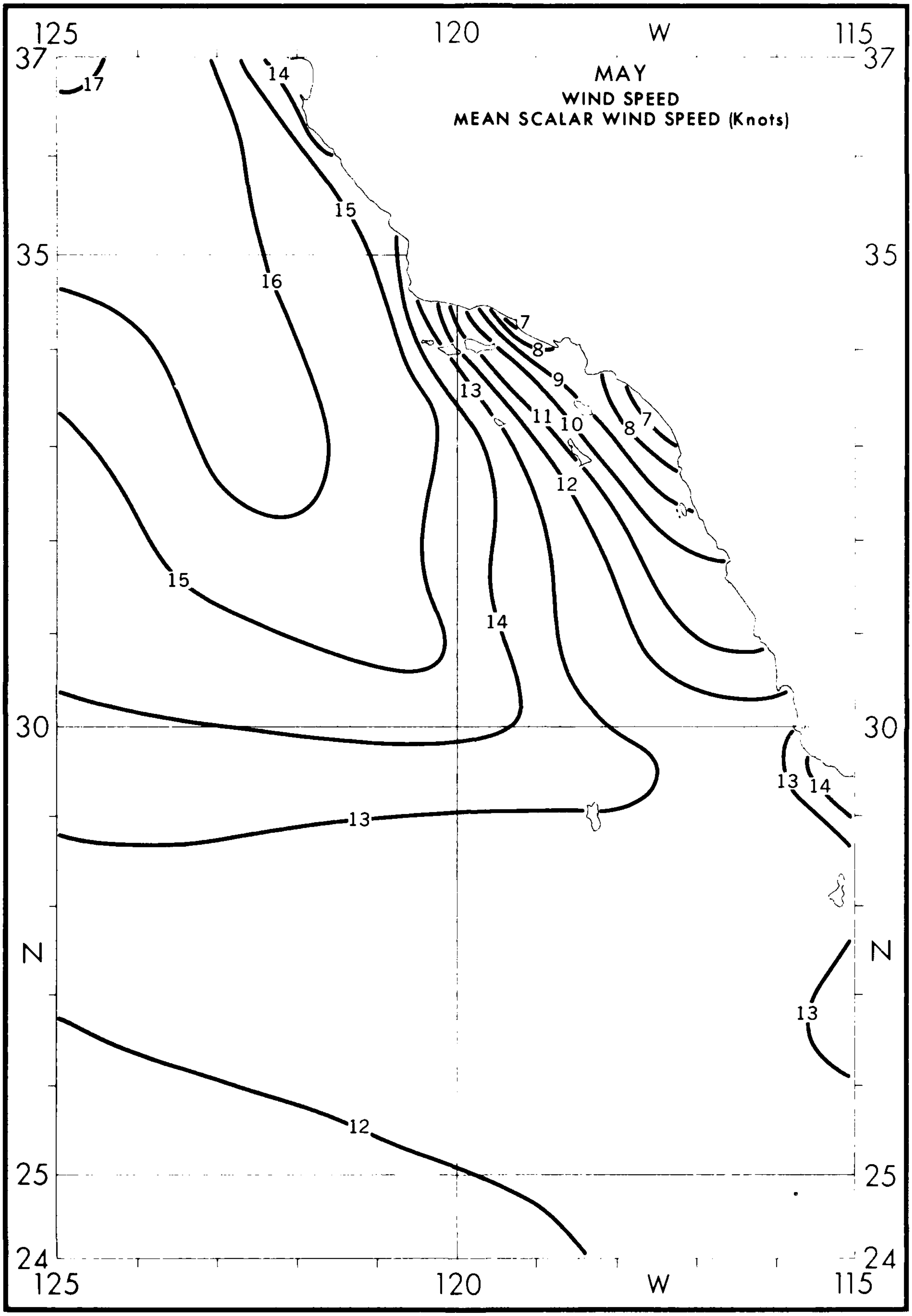
PERCENT FREQUENCY OF:

SOLID LINE - CEILING <1000 FEET AND/OR VISIBILITY <5 N. MILES

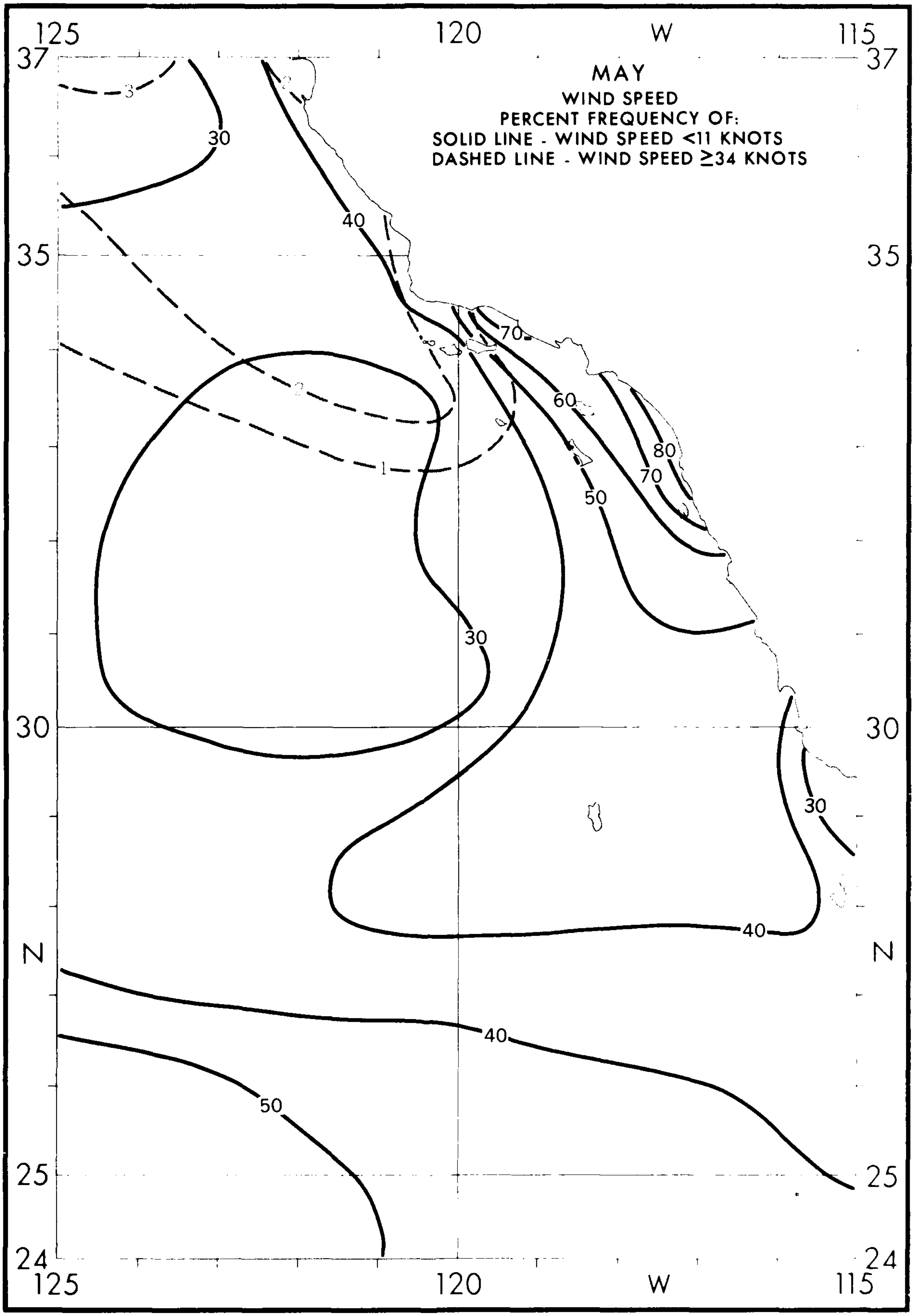
DASHED LINE - CEILING <8000 FEET AND/OR VISIBILITY <10 N. MILES


MAY
CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES
125
120
W
115
37
35
30
N
25
24
1
2
3
4
5
6


MAY
WIND-VISIBILITY-CLOUDINESS
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.
DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.
125
120
W
115
37
35
30
N
25
24
25
15
30
25
20
35
40
20
15
30
25
20
15
25
25
30
35
20



MAY
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)



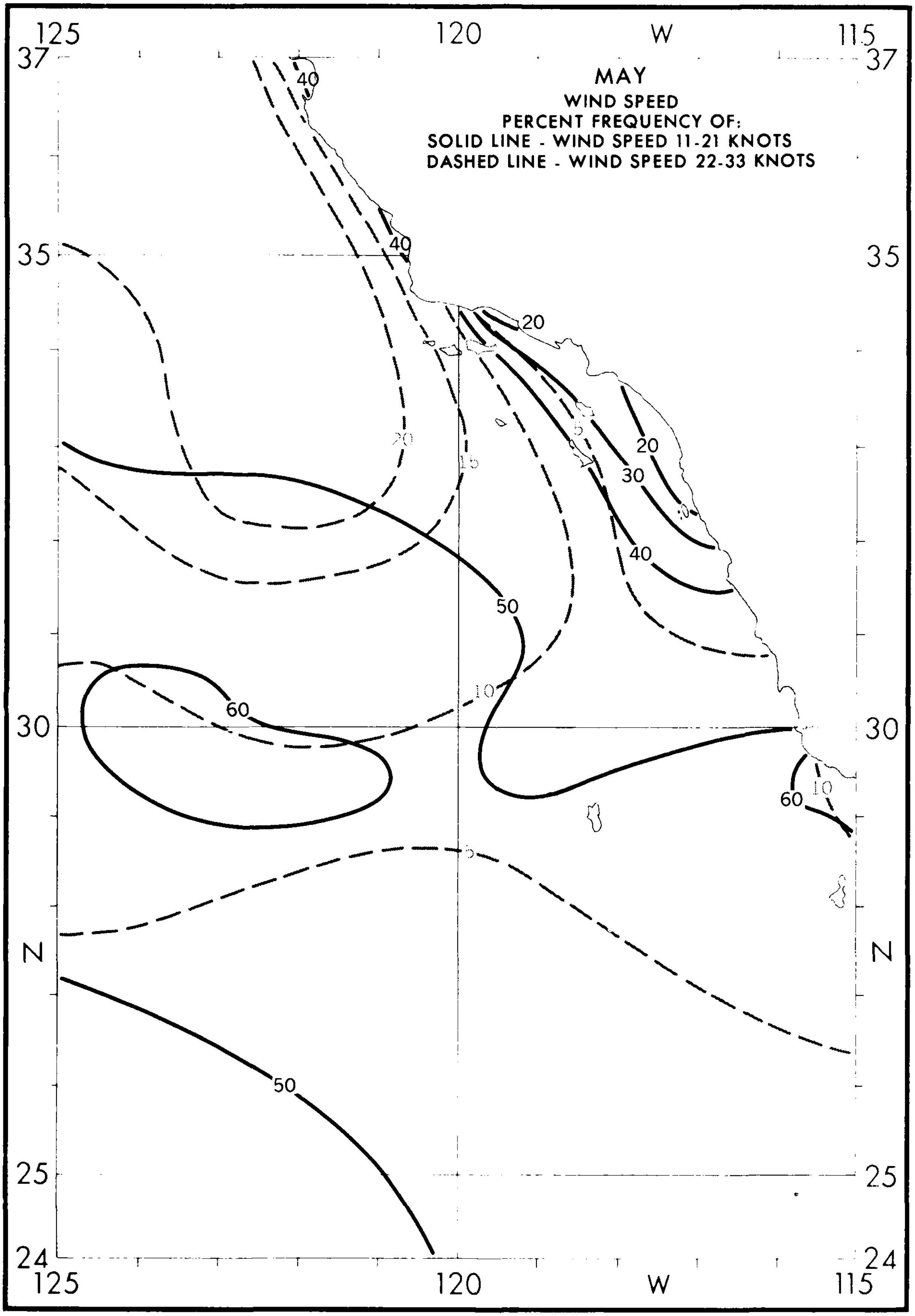
MAY

WIND SPEED

PERCENT FREQUENCY OF:

SOLID LINE - WIND SPEED <11 KNOTS

DASHED LINE - WIND SPEED ≥34 KNOTS



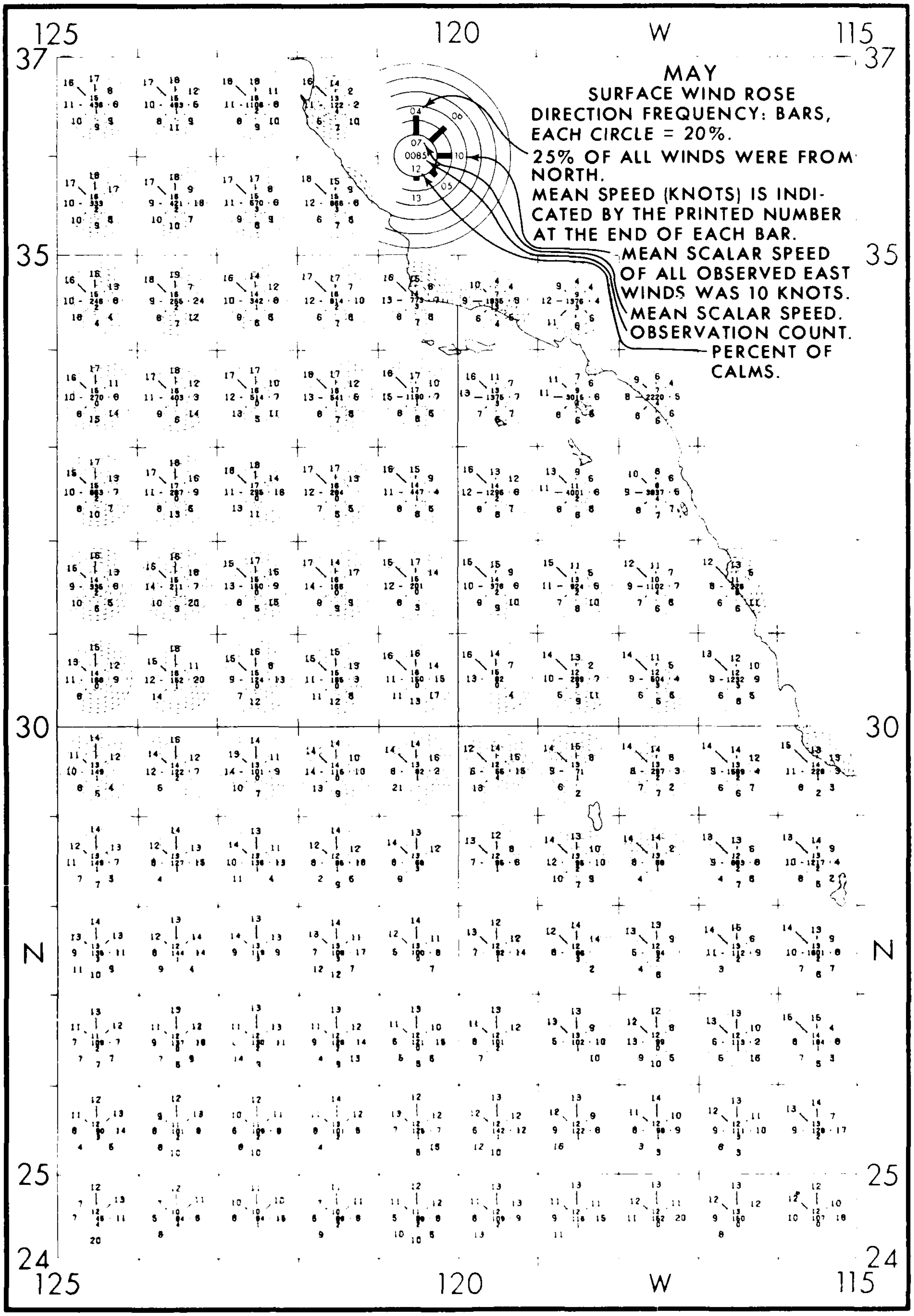
MAY

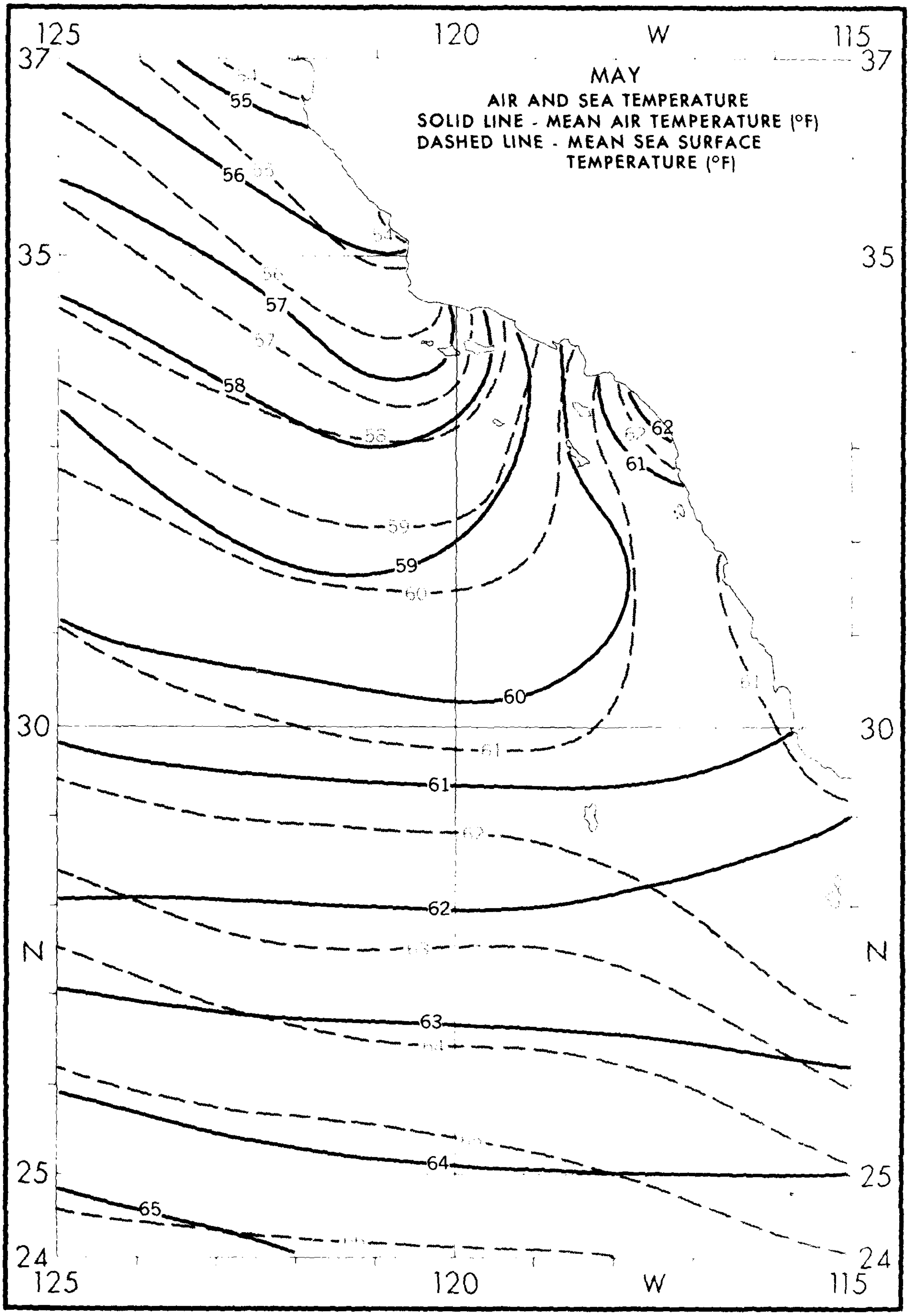
WIND SPEED

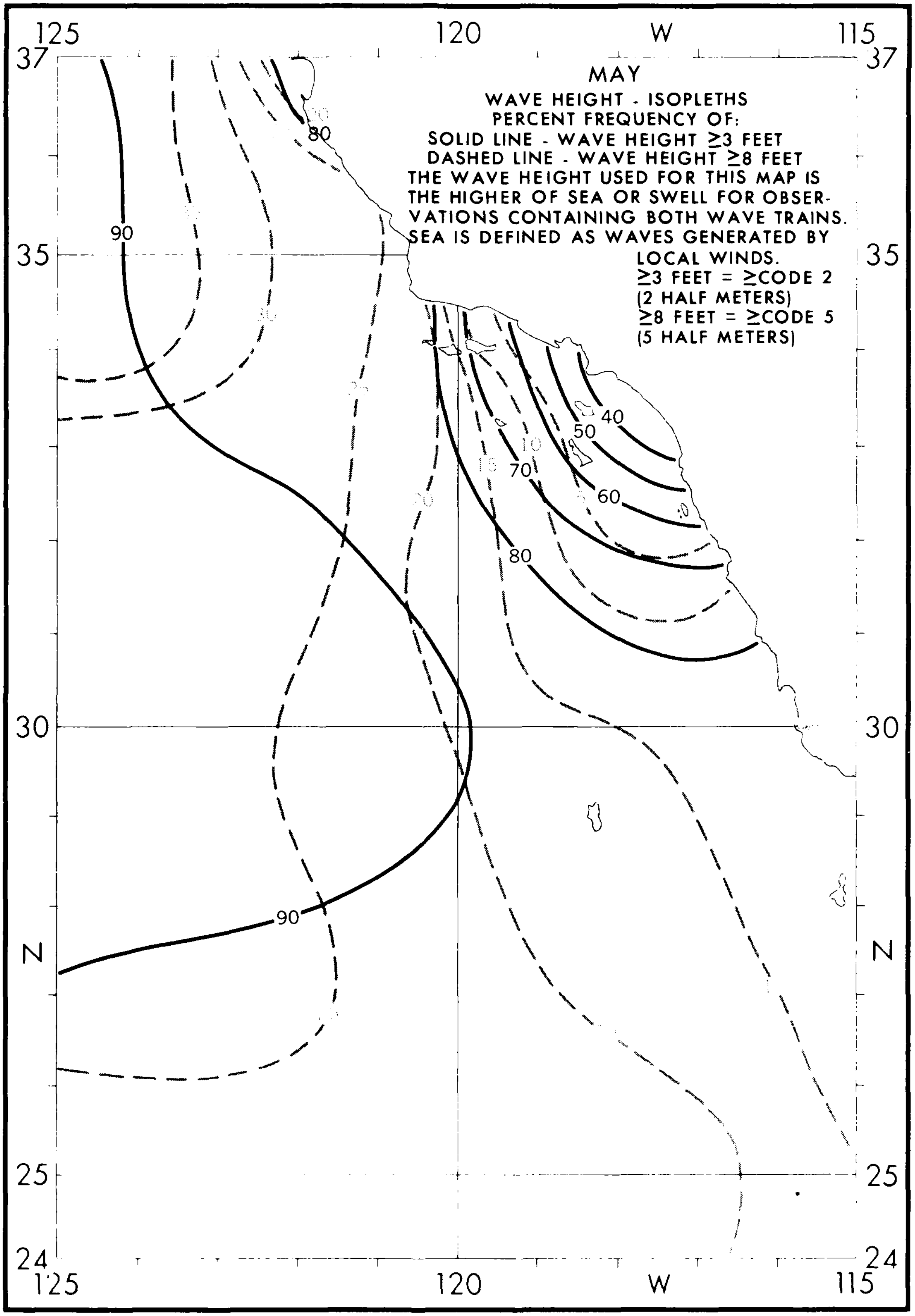
PERCENT FREQUENCY OF:

SOLID LINE - WIND SPEED 11-21 KNOTS

DASHED LINE - WIND SPEED 22-33 KNOTS


125
120
W
115
37
35
30
N
25
24
MAY
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.
04
06
07
0085
10
12
05
13

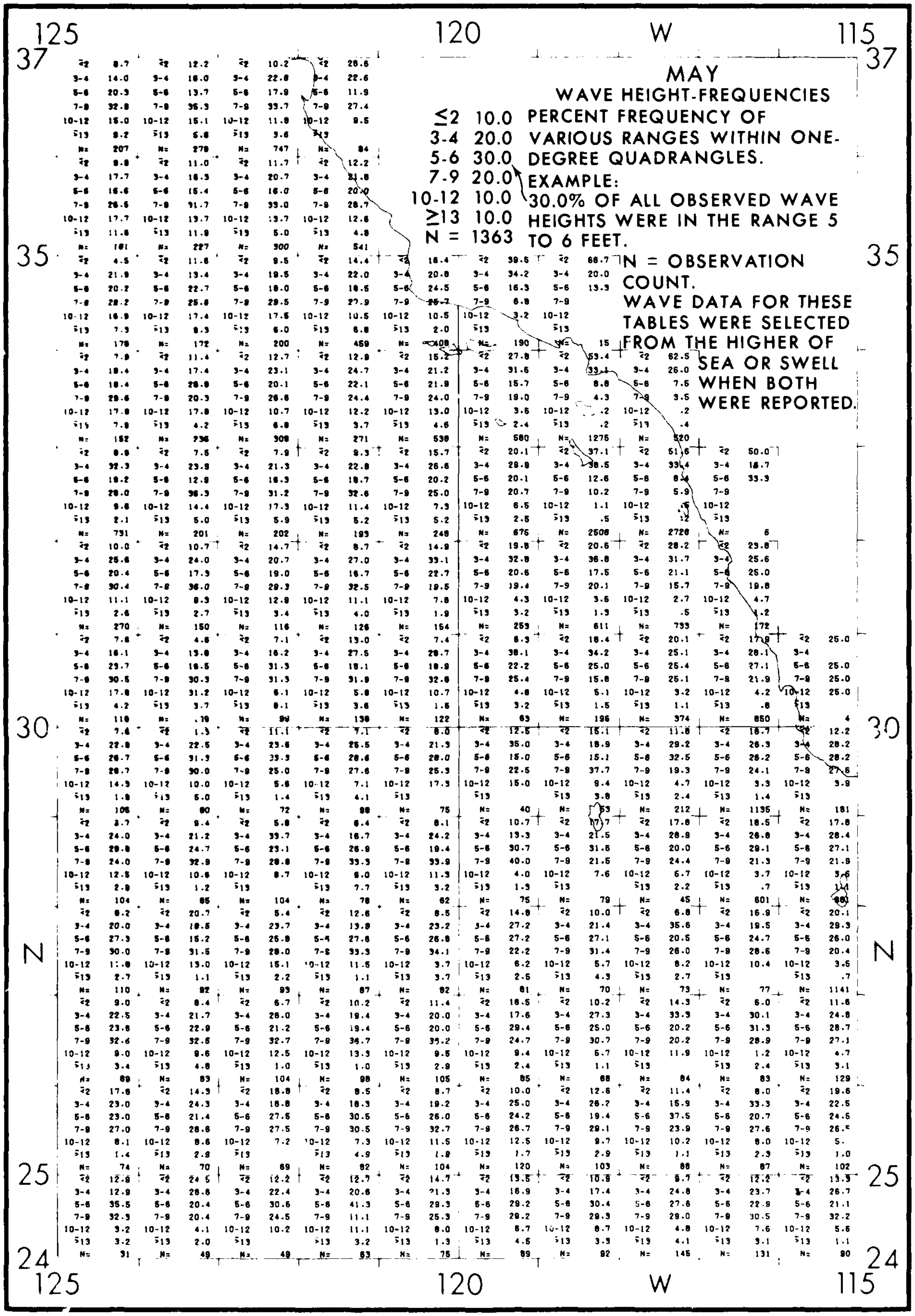

MAY
AIR AND SEA TEMPERATURE
SOLID LINE - MEAN AIR TEMPERATURE (°F)
DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)
125
120
W
115
37
35
30
N
25
24
55
56
57
58
59
60
61
62
63
64
65



MAY

WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.

≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)



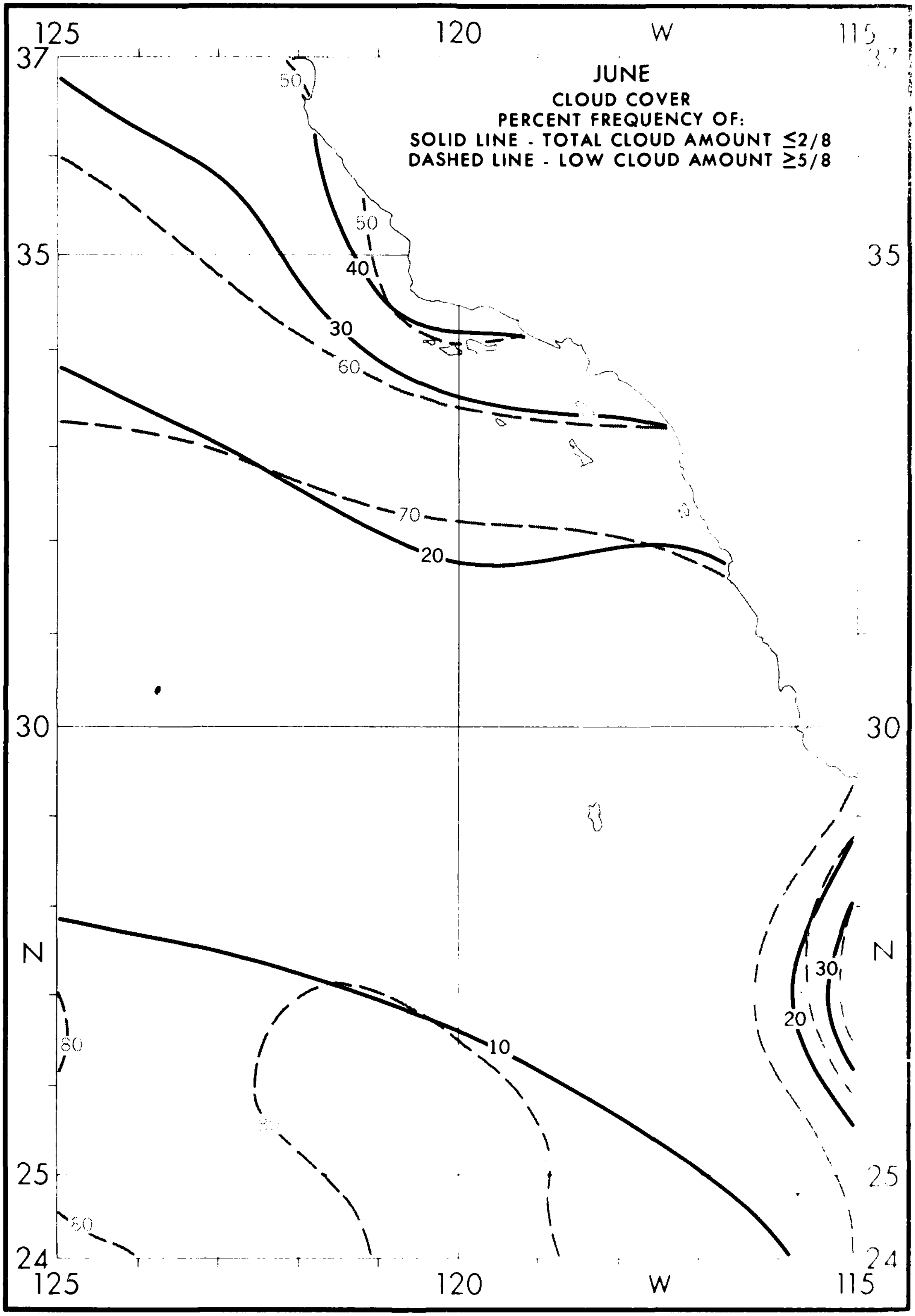
MAY

WAVE HEIGHT-FREQUENCIES

≤2	10.0	PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.
3-4	20.0	
5-6	30.0	
7-9	20.0	EXAMPLE: 30.0% OF ALL OBSERVED WAVE HEIGHTS WERE IN THE RANGE 5 TO 6 FEET.
10-12	10.0	
≥13	10.0	
N =	1363	

N = OBSERVATION COUNT.

WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.



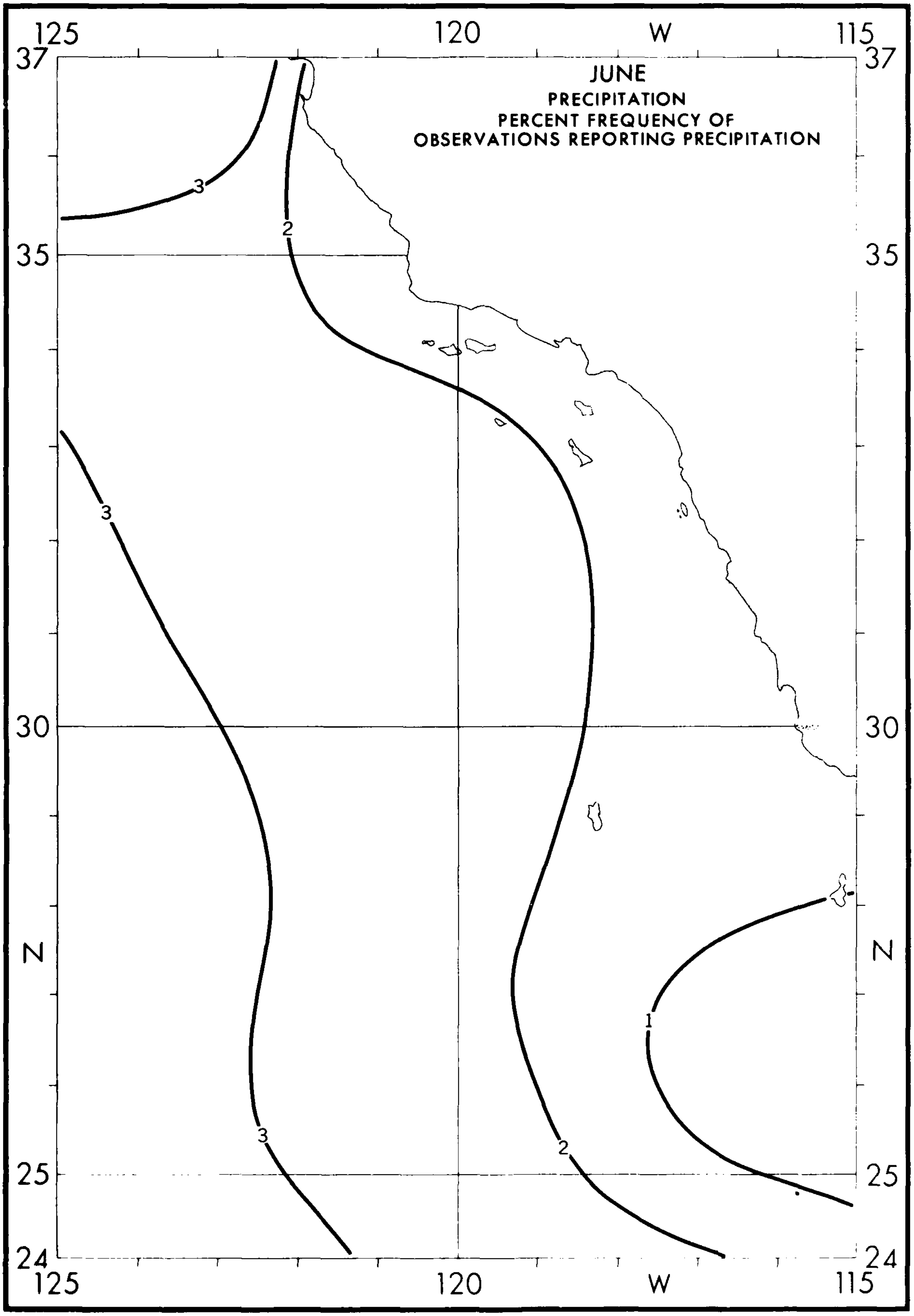
JUNE

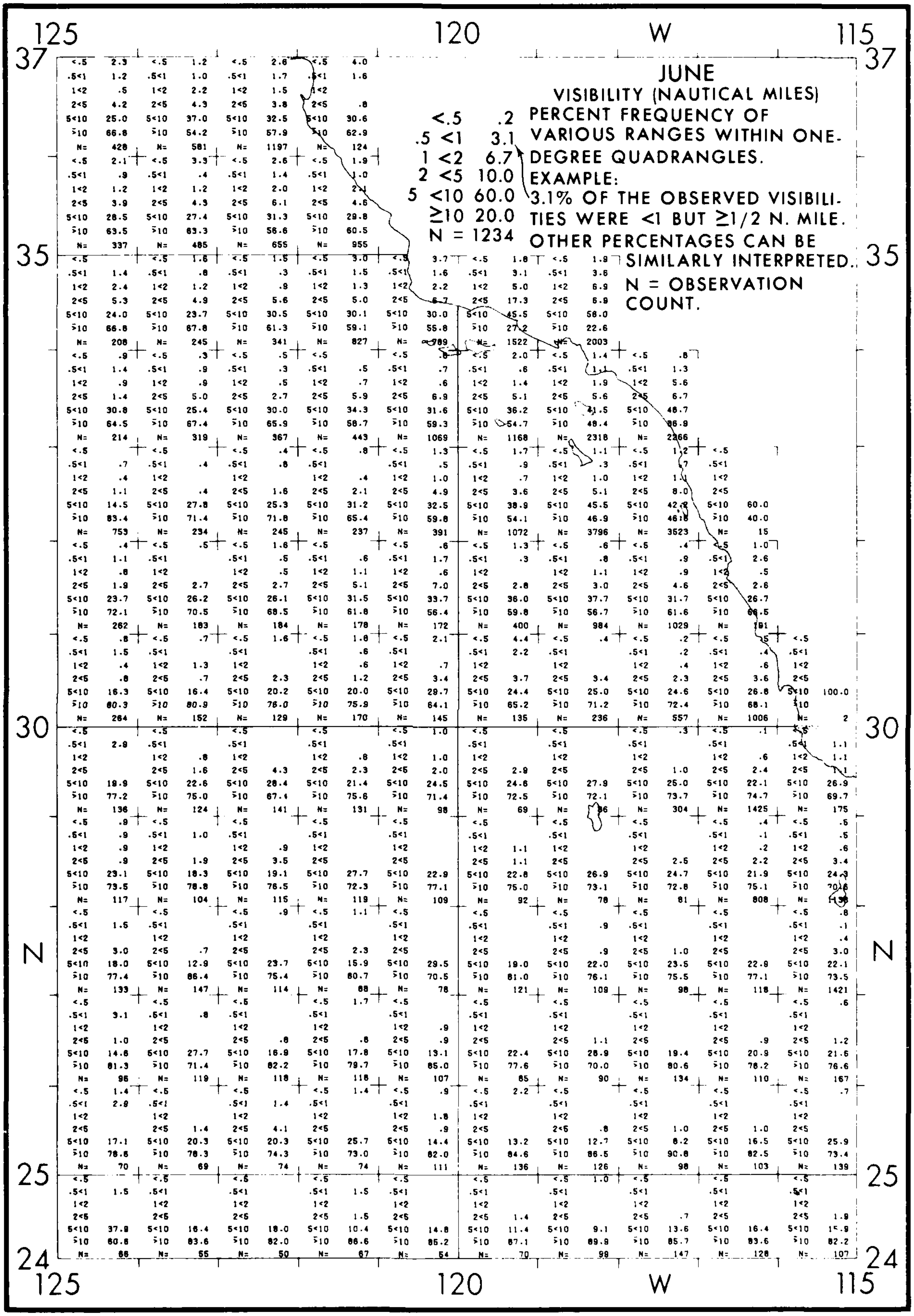
CLOUD COVER

PERCENT FREQUENCY OF:

SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8

DASHED LINE - LOW CLOUD AMOUNT ≥5/8


JUNE
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
125
120
W
115
37
35
30
N
25
24
3
2
3
3
2
1



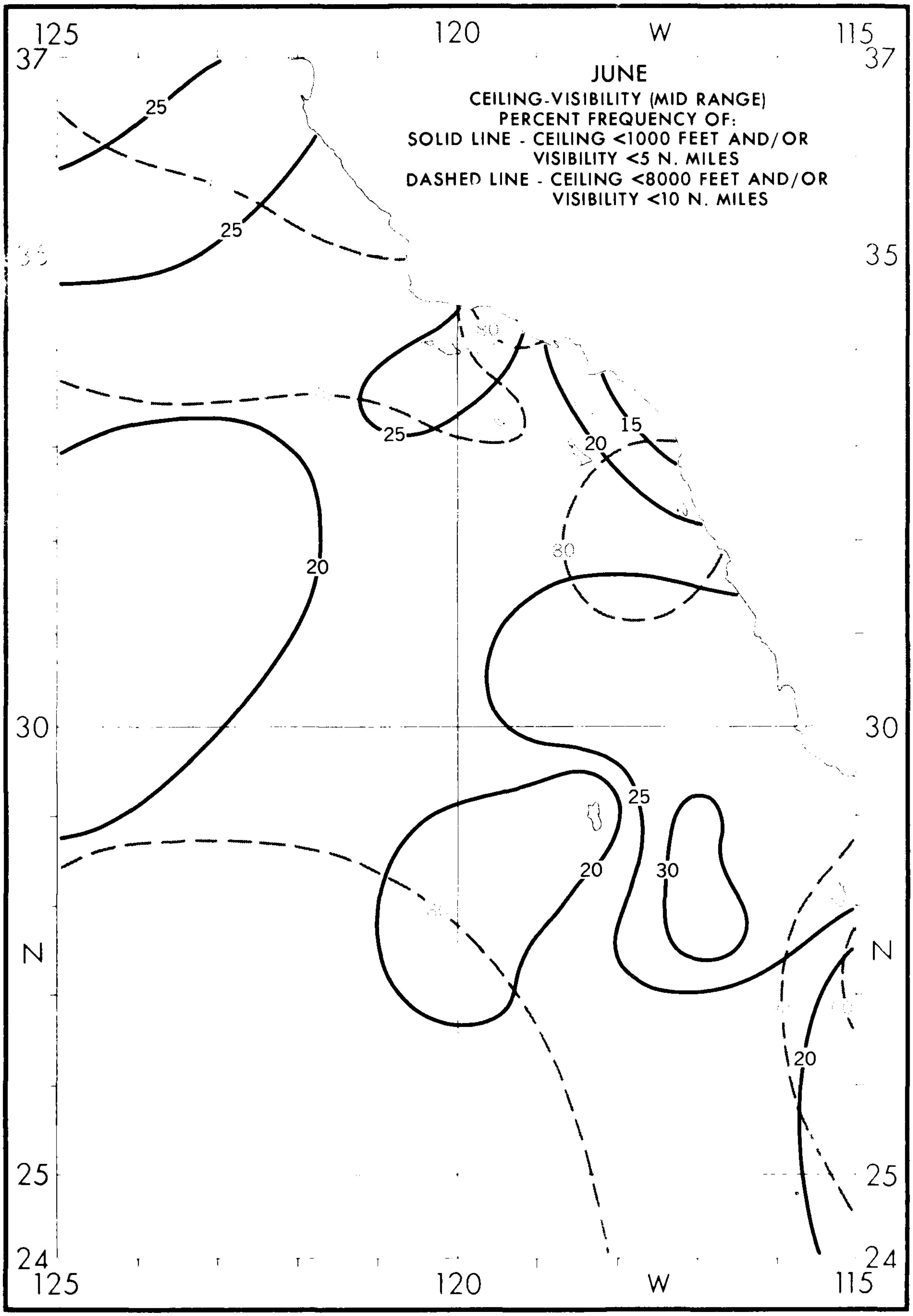
JUNE

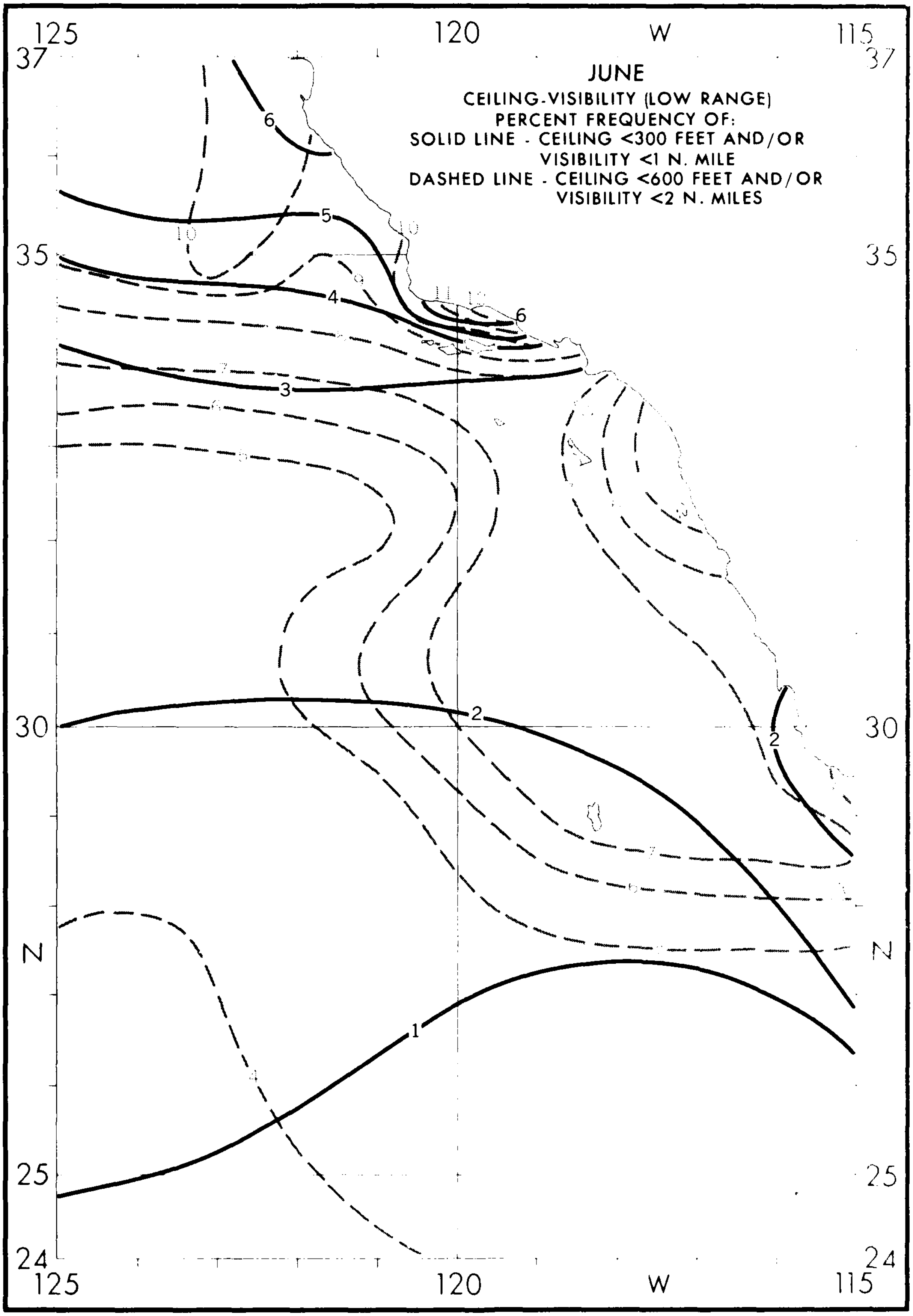
VISIBILITY (NAUTICAL MILES) PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

<.5	.2
.5 <1	3.1
1 <2	6.7
2 <5	10.0
5 <10	60.0
≥10	20.0
N =	1234

EXAMPLE: 3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.

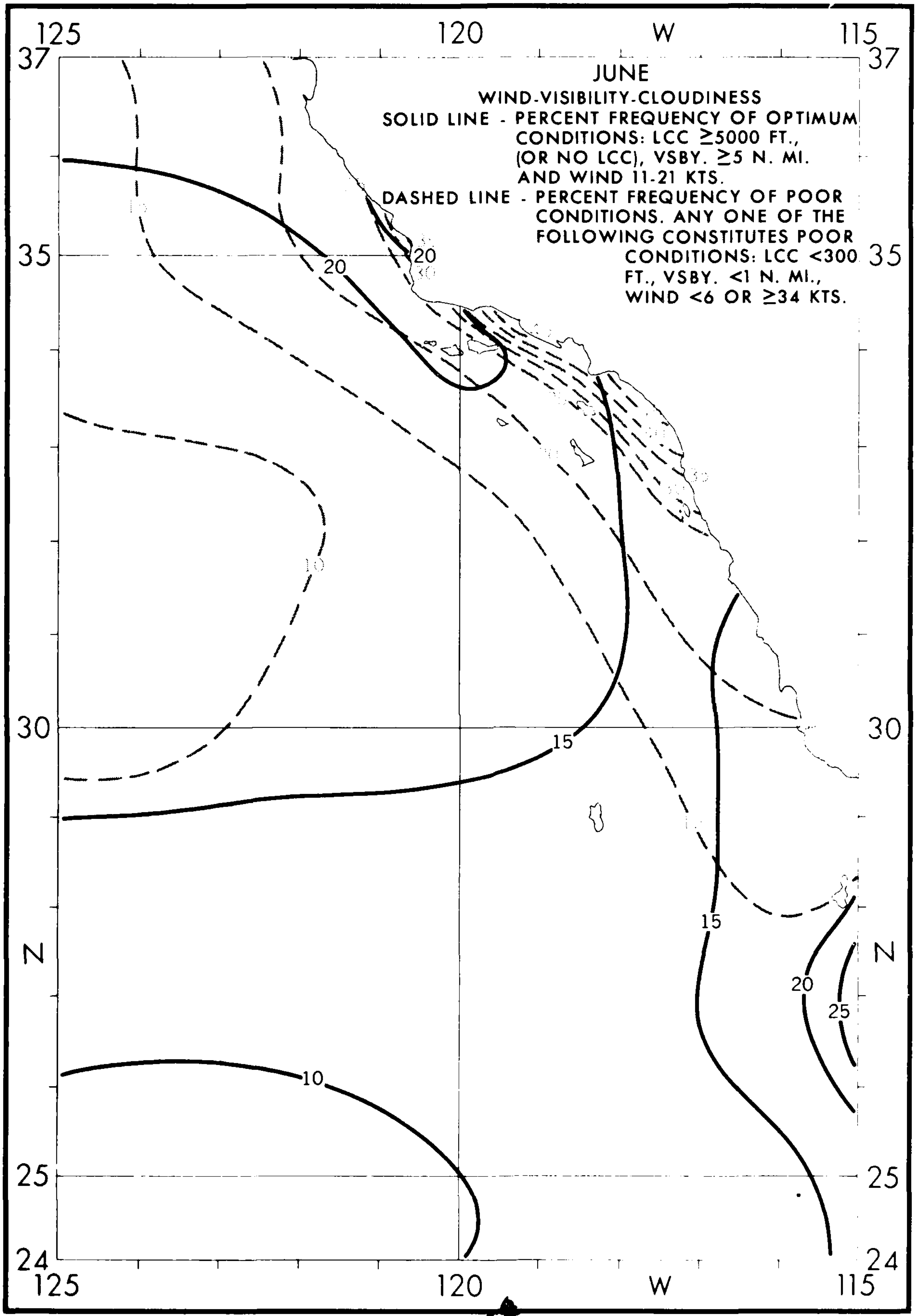
N = OBSERVATION COUNT.

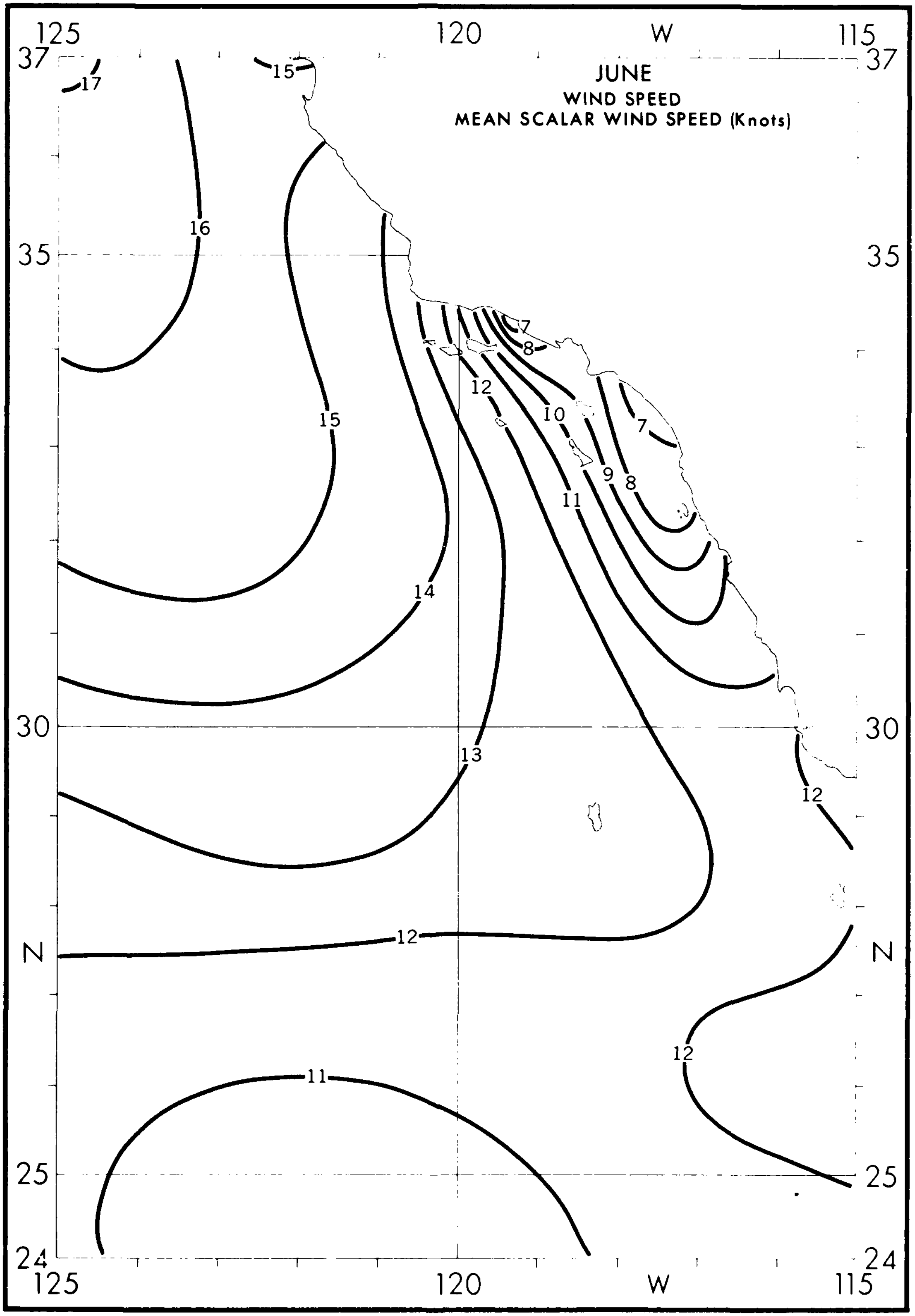

JUNE
CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR VISIBILITY <10 N. MILES
125
120
W
115
37
35
30
25
24
N
25
25
25
20
15
20
80
20
25
20
30
20
30

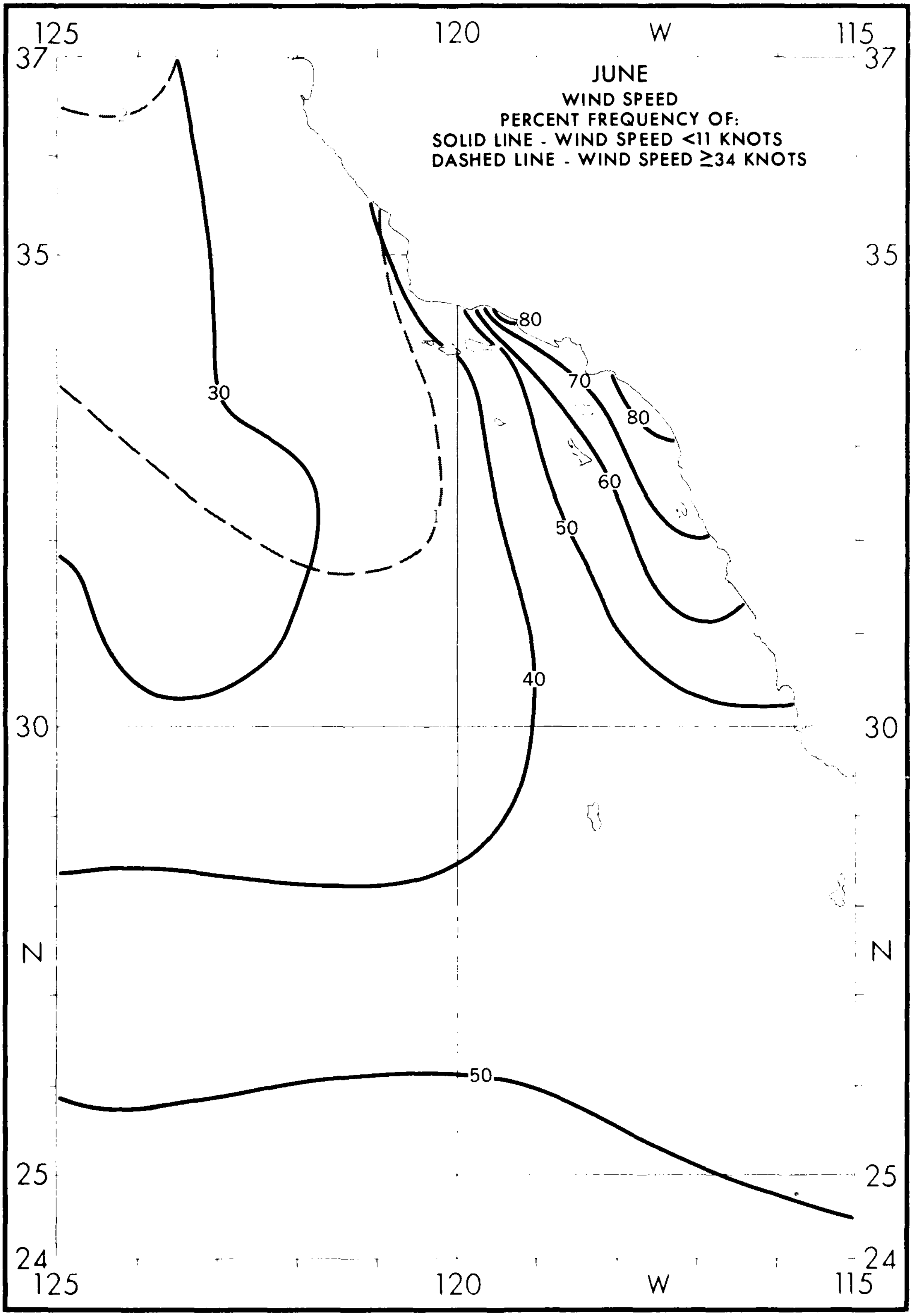


JUNE

CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES


JUNE
WIND-VISIBILITY-CLOUDINESS
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.
DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.
125
120
W
115
37
35
30
N
25
24
20
20
30
10
15
15
20
25
10


JUNE
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)
125
120
W
115
37
35
30
N
25
24
17
16
15
14
13
12
11
10
9
8
7



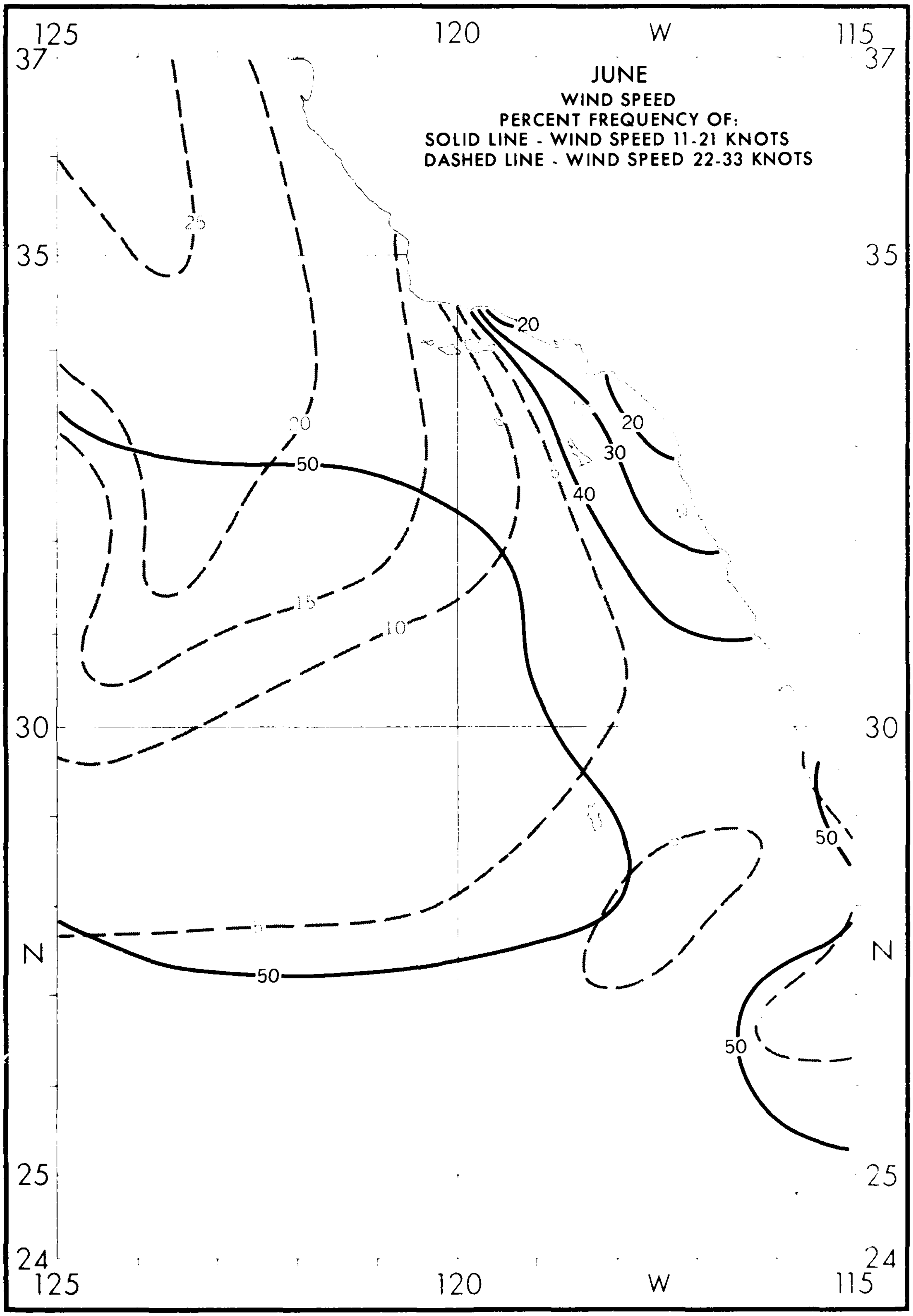
JUNE

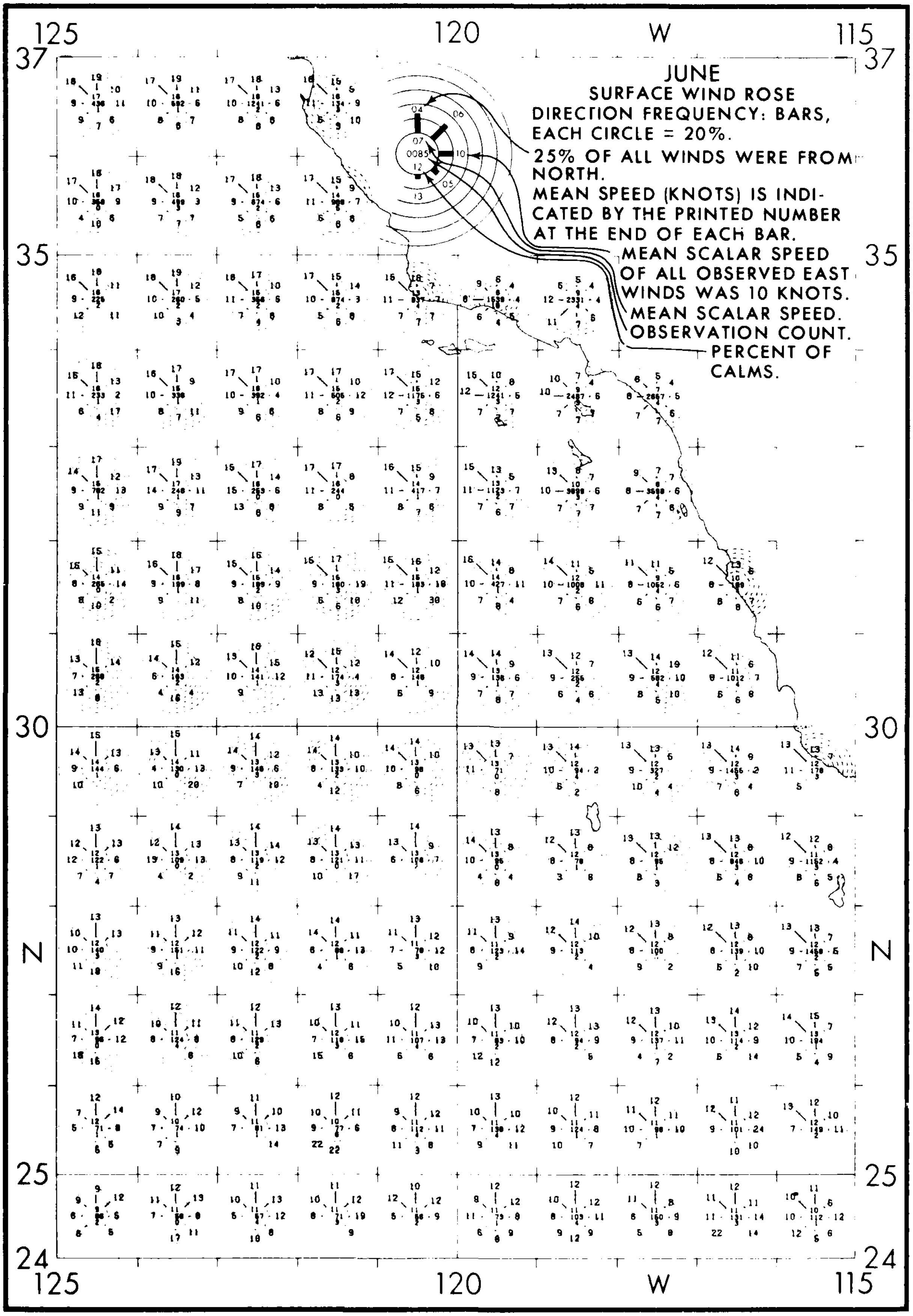
WIND SPEED

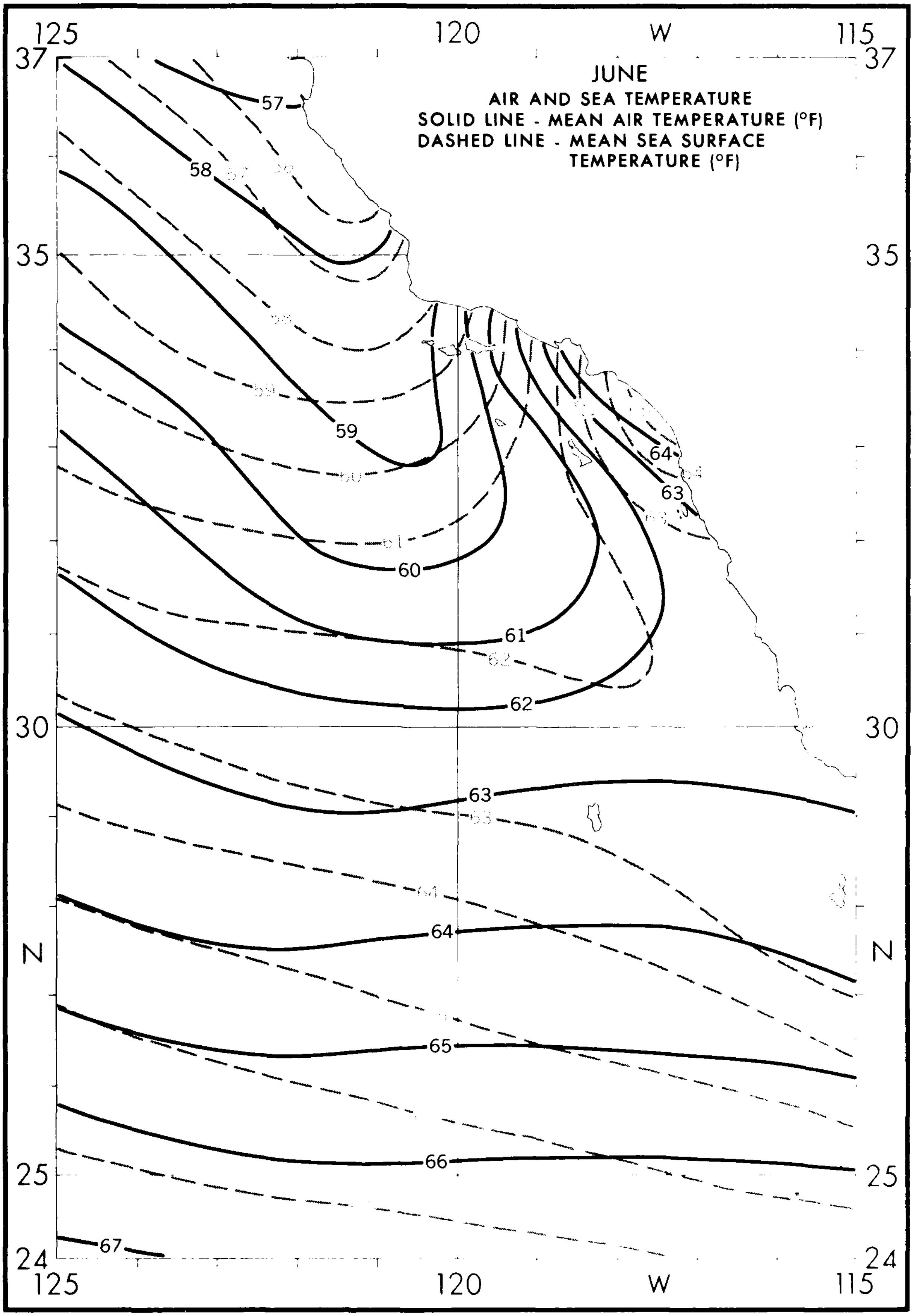
PERCENT FREQUENCY OF:

SOLID LINE - WIND SPEED <11 KNOTS

DASHED LINE - WIND SPEED ≥34 KNOTS


JUNE
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED 11-21 KNOTS
DASHED LINE - WIND SPEED 22-33 KNOTS
125
120
W
115
37
35
30
N
25
24
25
20
15
10
5
50
20
30
40
20
50
50
50


125
120
W
115
37
35
30
25
24
N
JUNE
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.
04
06
07
0085
10
12
05
13

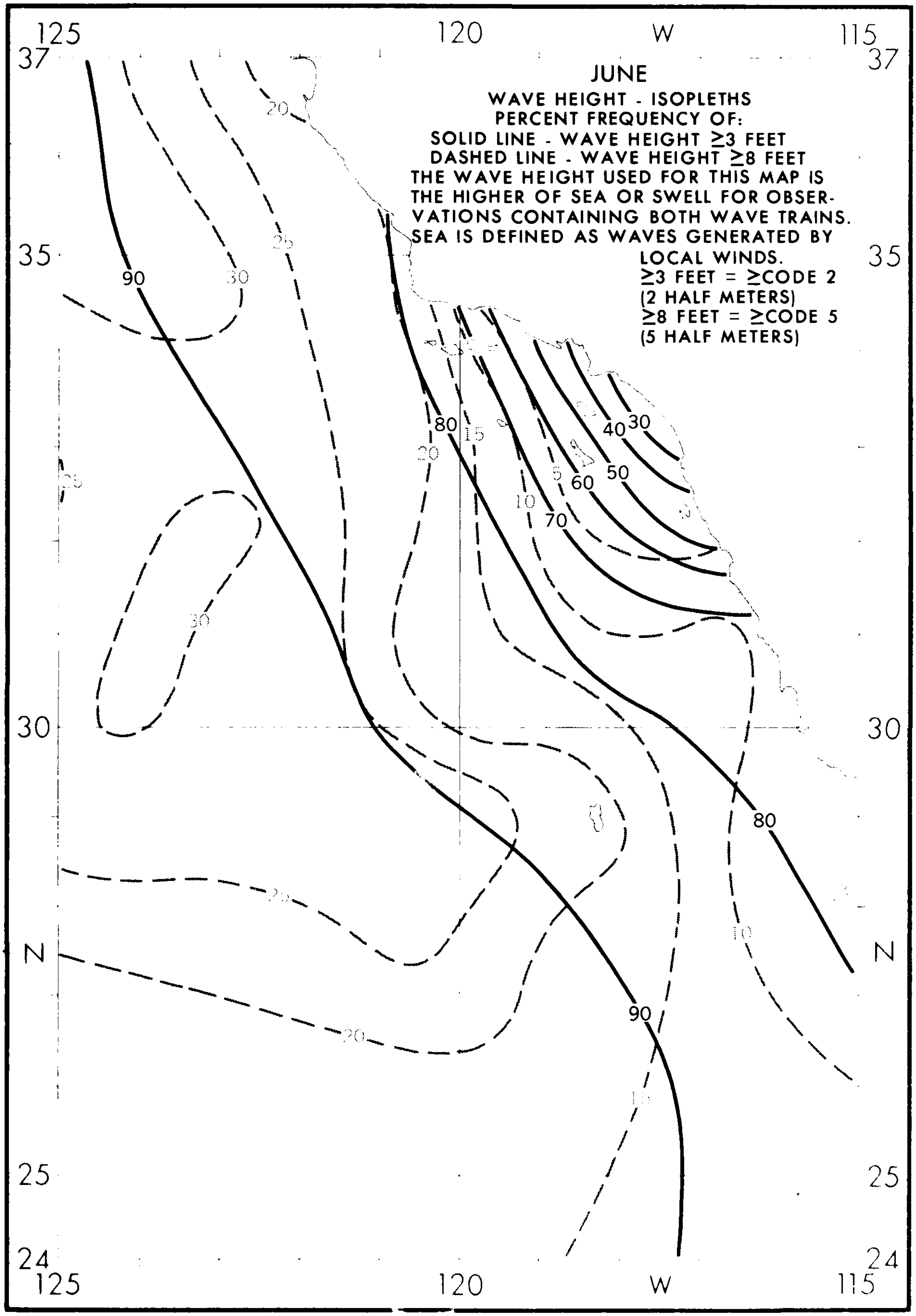


JUNE

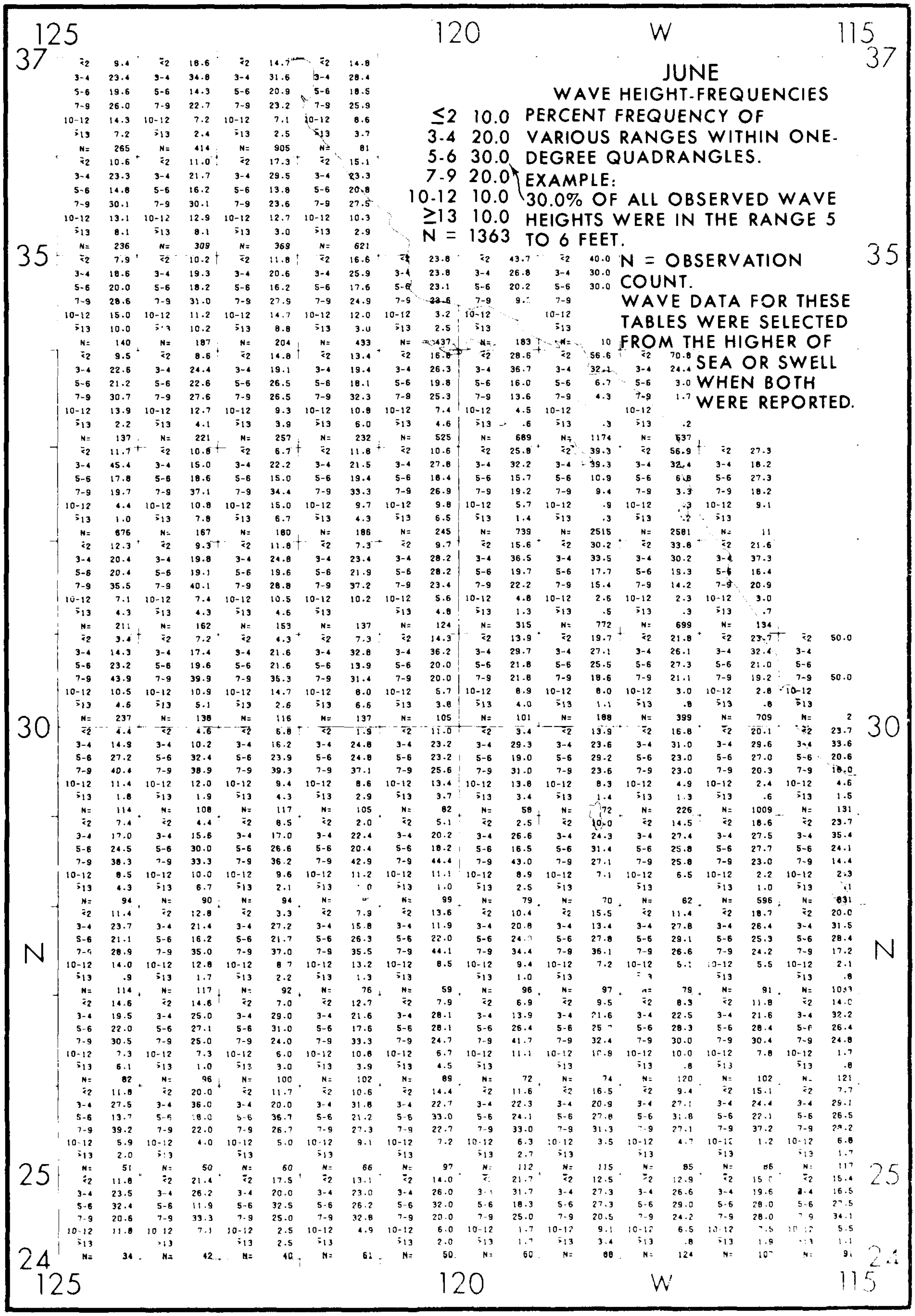
AIR AND SEA TEMPERATURE

SOLID LINE - MEAN AIR TEMPERATURE (°F)

DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)


JUNE

WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)



JUNE

WAVE HEIGHT-FREQUENCIES

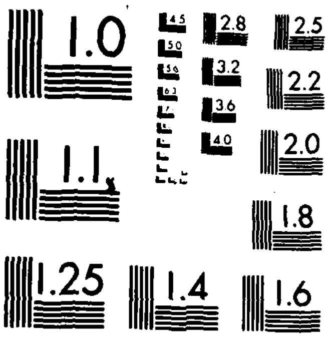
≤2	10.0	PERCENT FREQUENCY OF
3-4	20.0	VARIOUS RANGES WITHIN ONE-
5-6	30.0	DEGREE QUADRANGLES.
7-9	20.0	EXAMPLE:
10-12	10.0	30.0% OF ALL OBSERVED WAVE
≥13	10.0	HEIGHTS WERE IN THE RANGE 5
N =	1363	TO 6 FEET.

N = OBSERVATION COUNT.

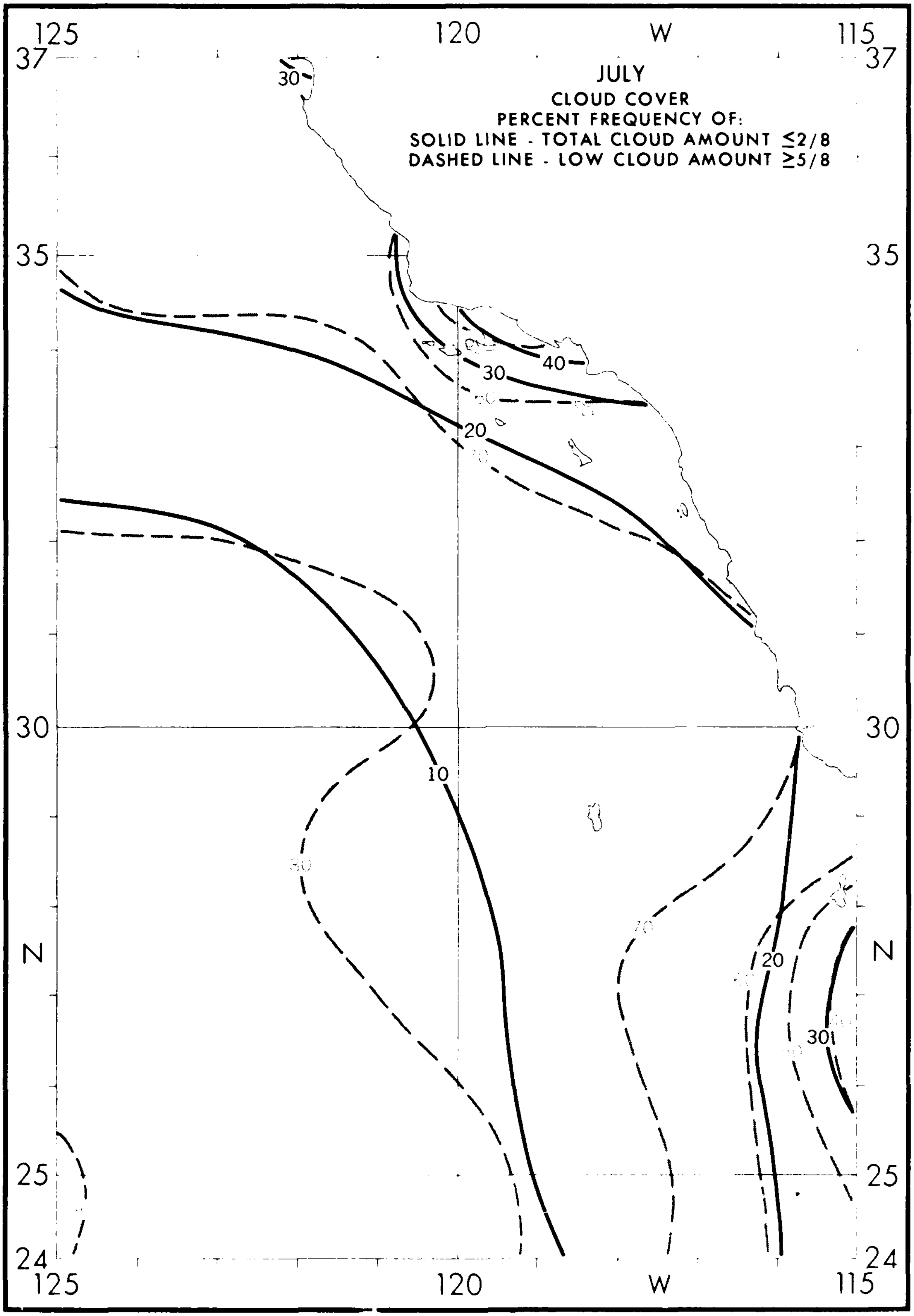
WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.

AD-A137 698 CLIMATIC STUDY OF THE SOUTHERN CALIFORNIA OPERATING AREA NEAR COASTAL ZONE(U) NAVAL OCEANOGRAPHY COMMAND DETACHMENT ASHEVILLE NC OCT 83 2/3

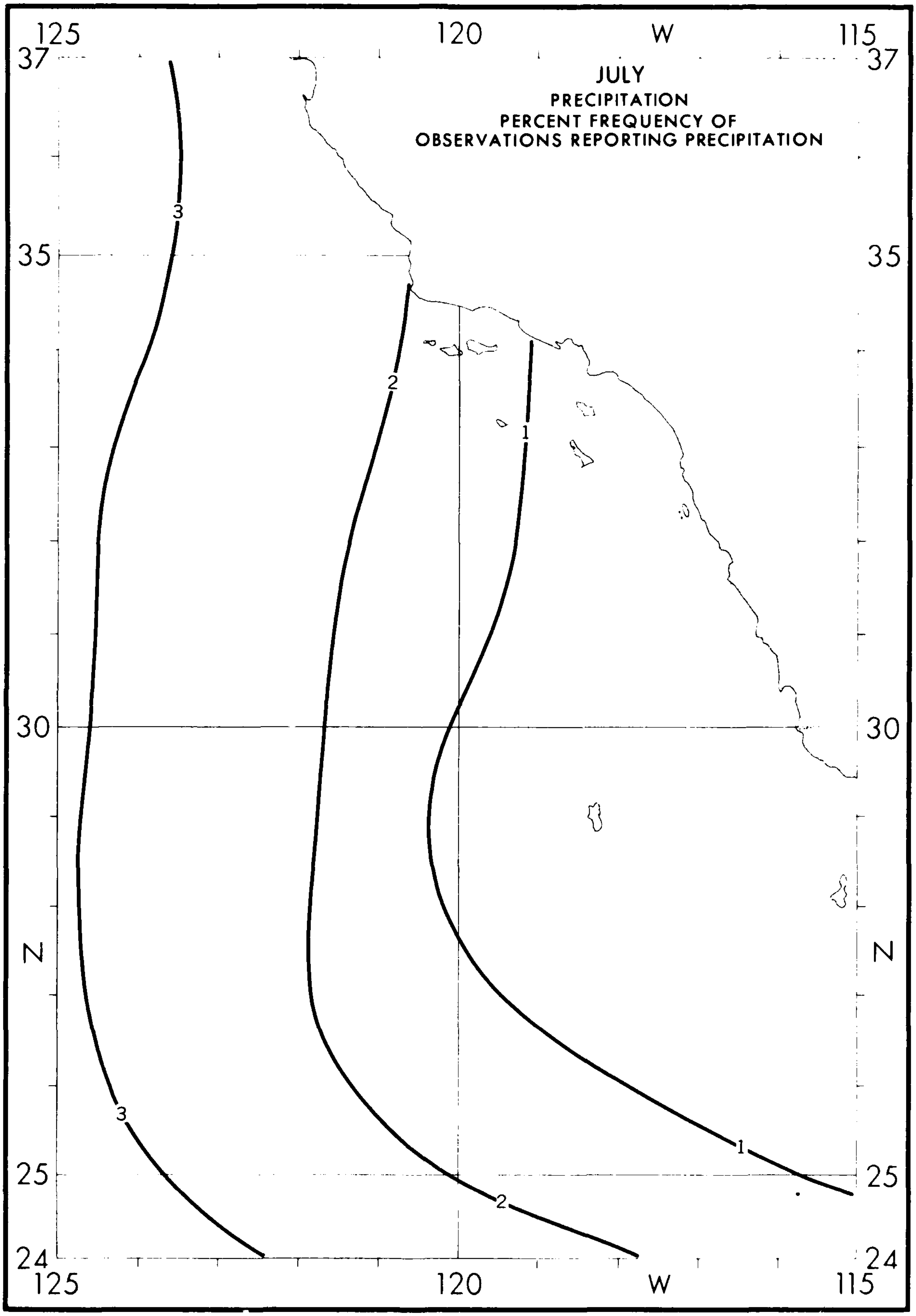
UNCLASSIFIED F/G 4/2 NL

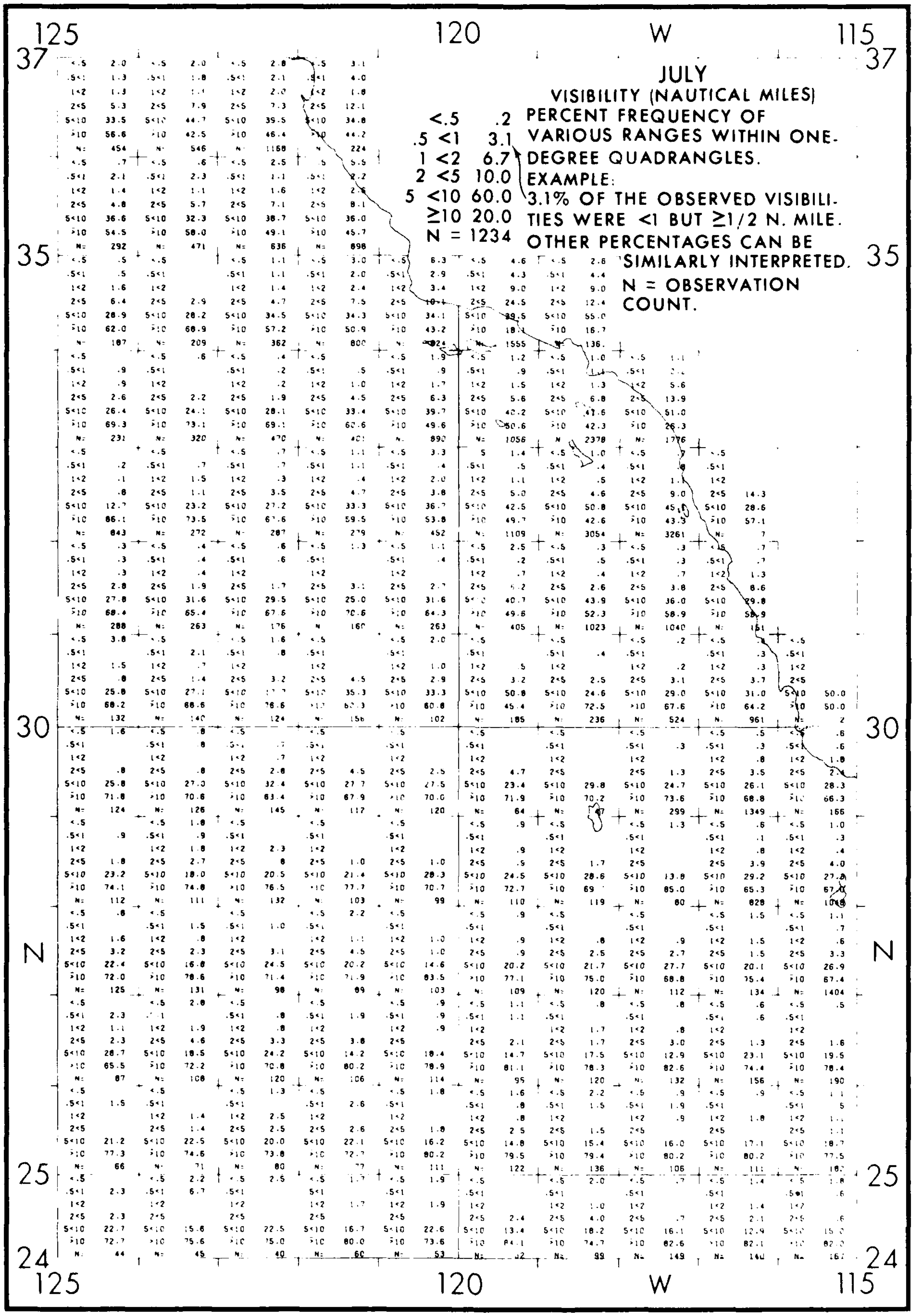


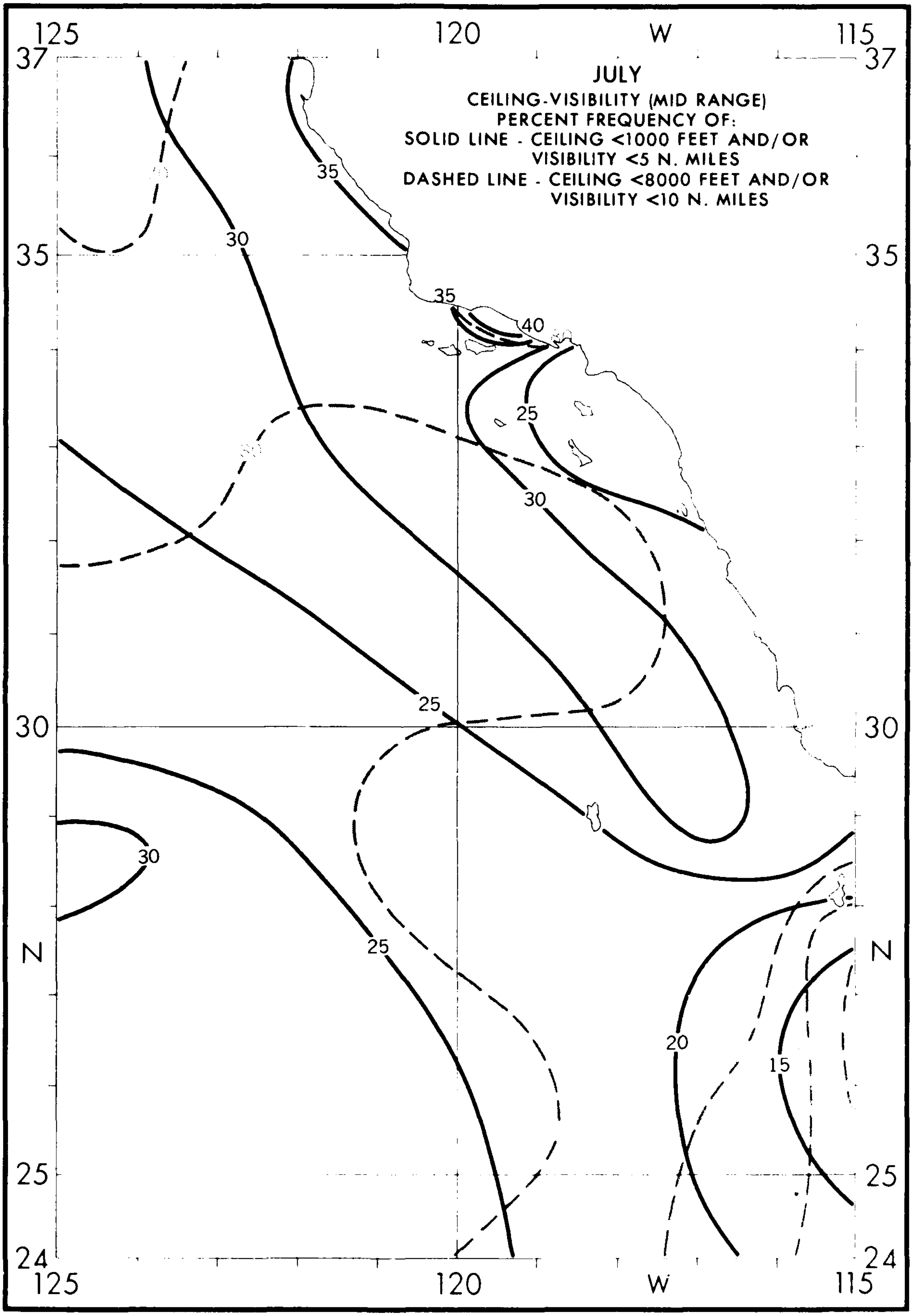
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

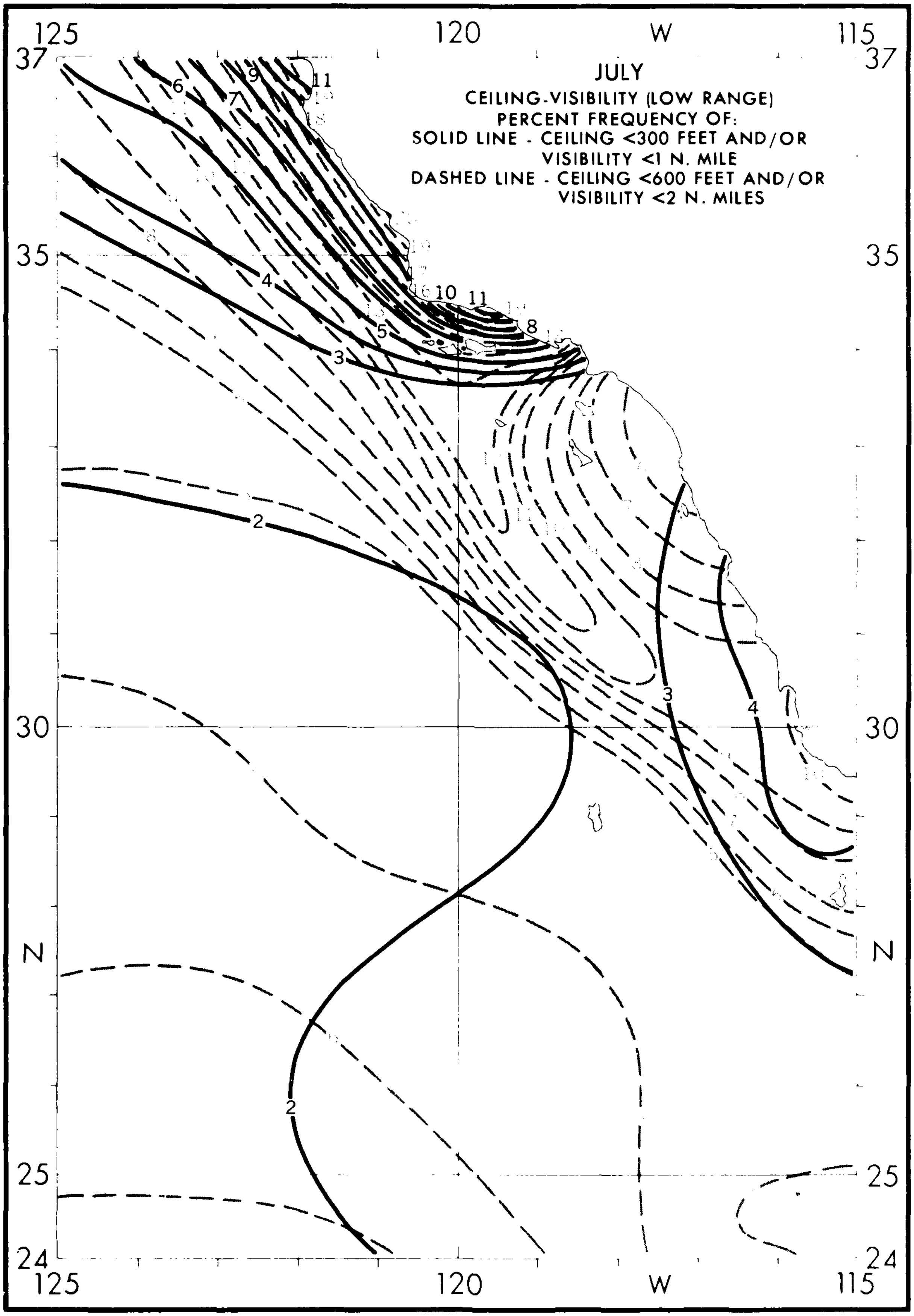


JULY
CLOUD COVER
PERCENT FREQUENCY OF:
SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8
DASHED LINE - LOW CLOUD AMOUNT ≥5/8


JULY
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
125
120
W
115
37
35
30
25
24
N
3
2
1

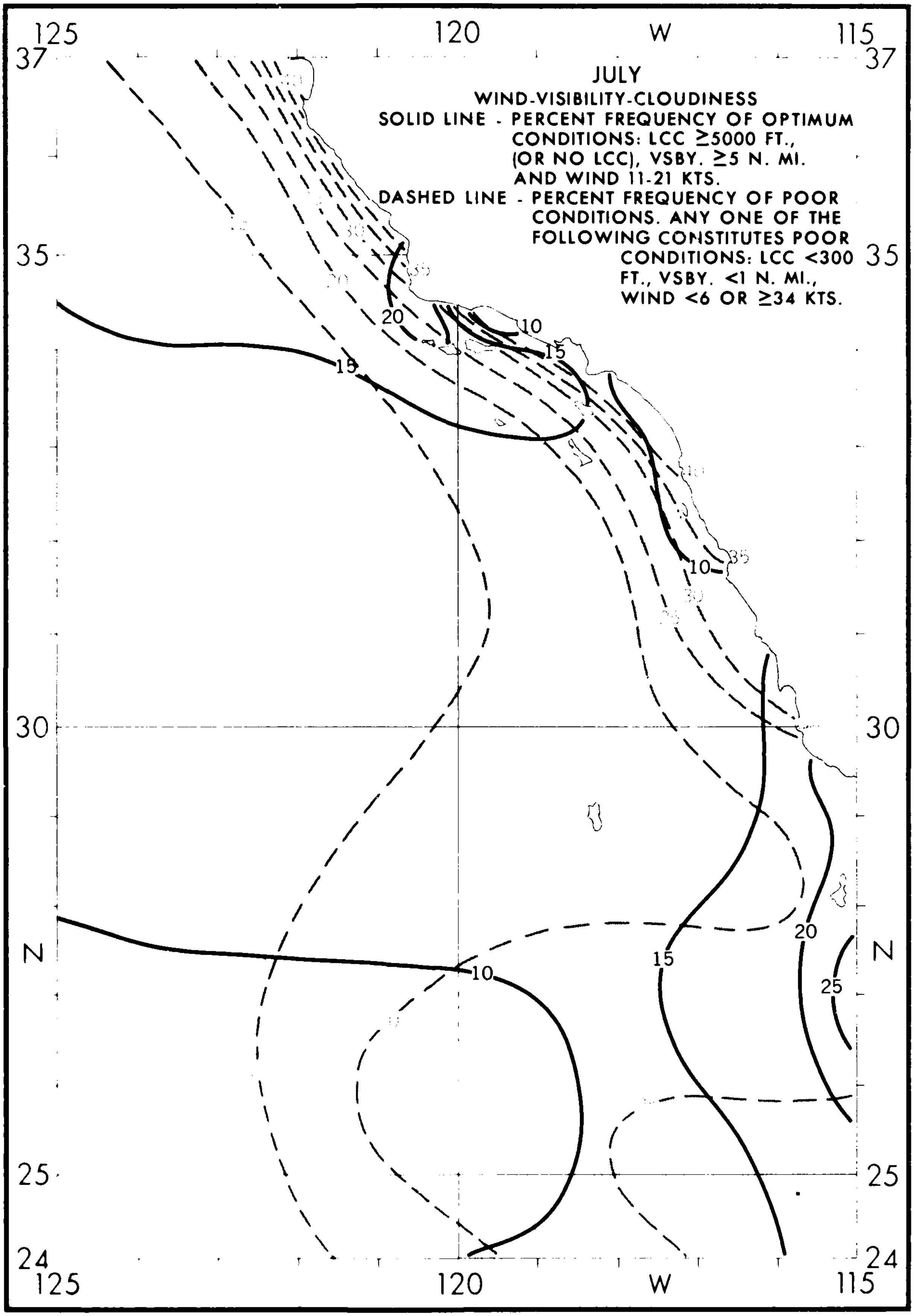


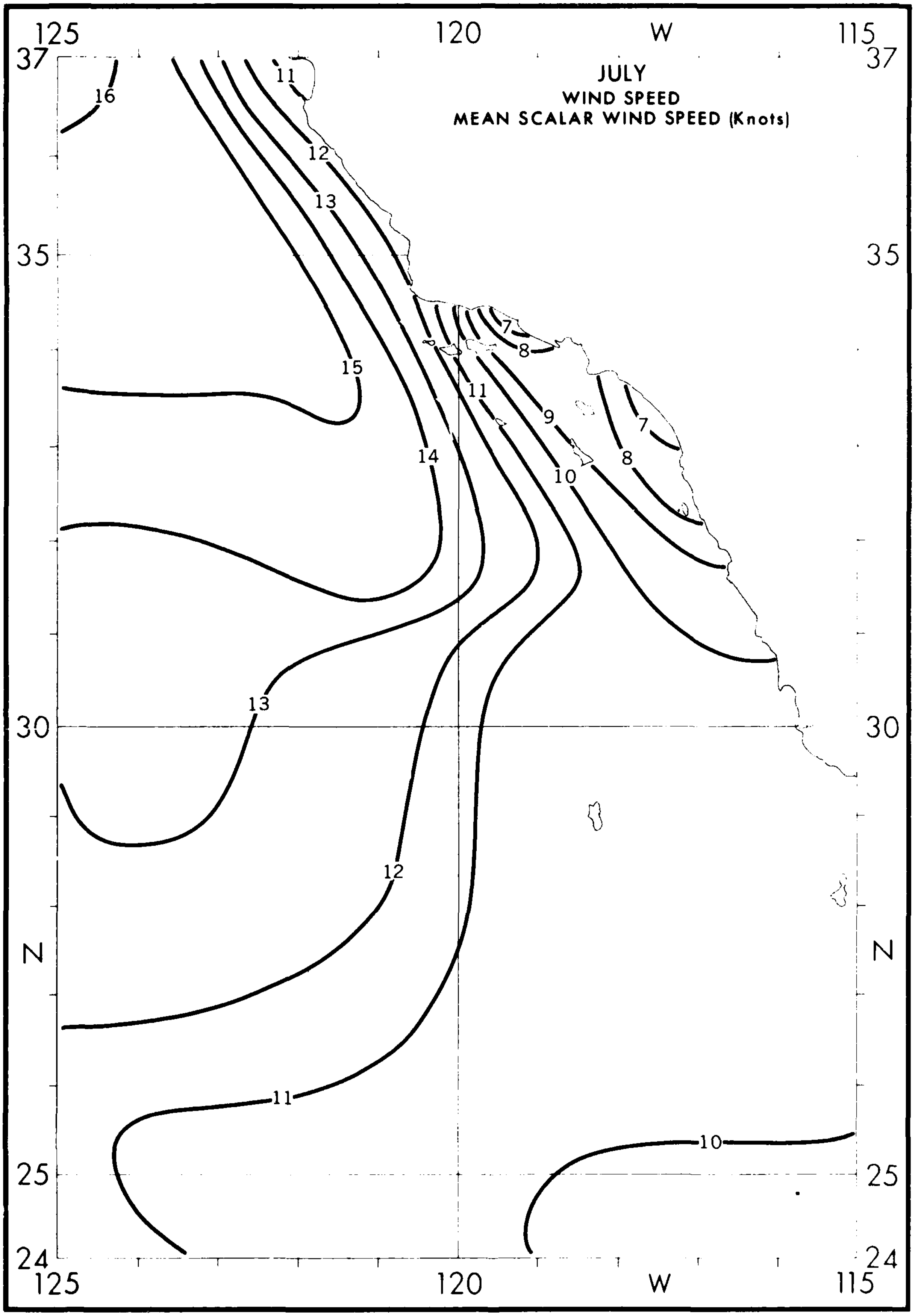
JULY
CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR VISIBILITY <10 N. MILES
125
120
W
115
37
35
30
25
24
N
35
30
35
40
25
30
25
30
25
20
15



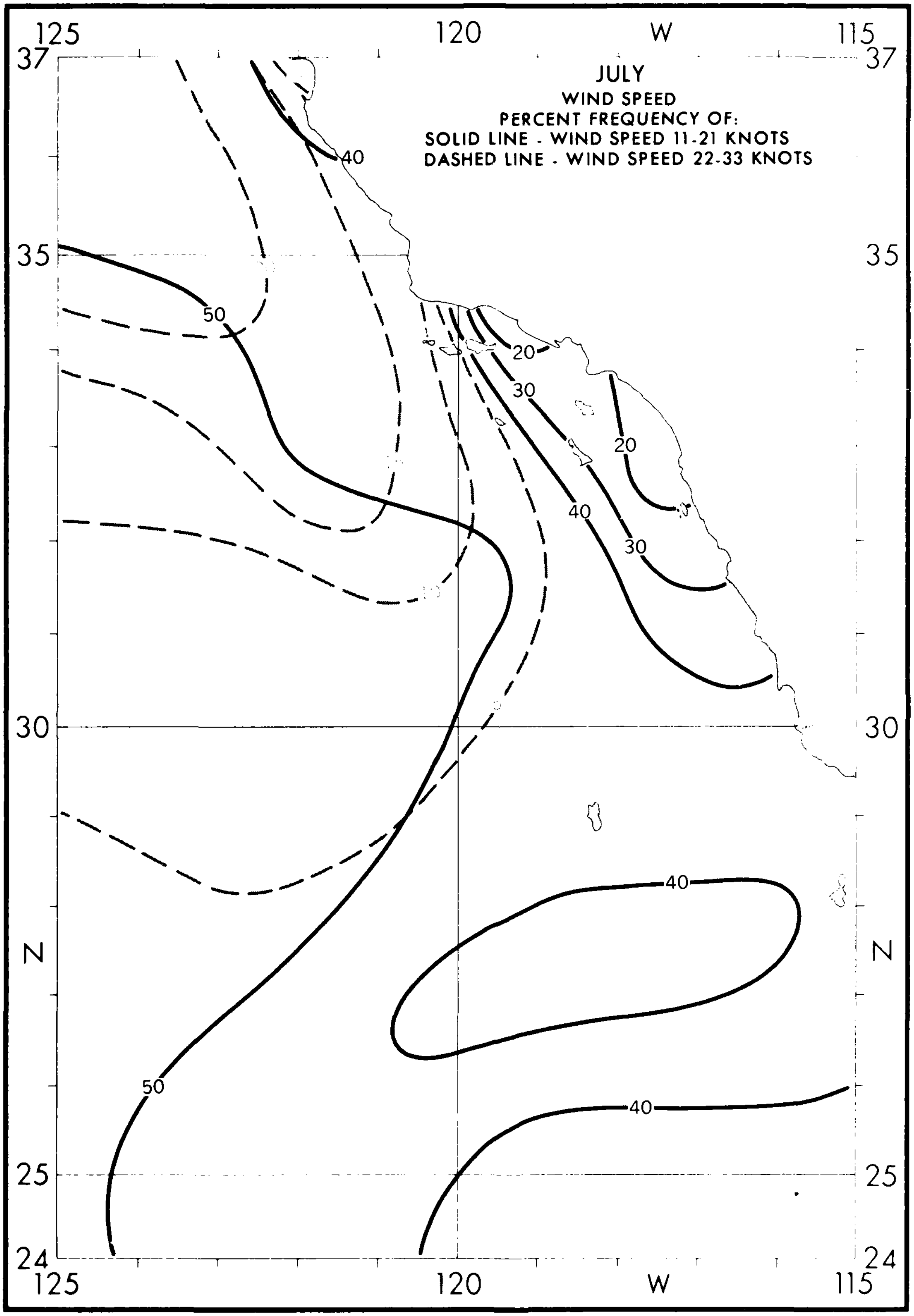
JULY

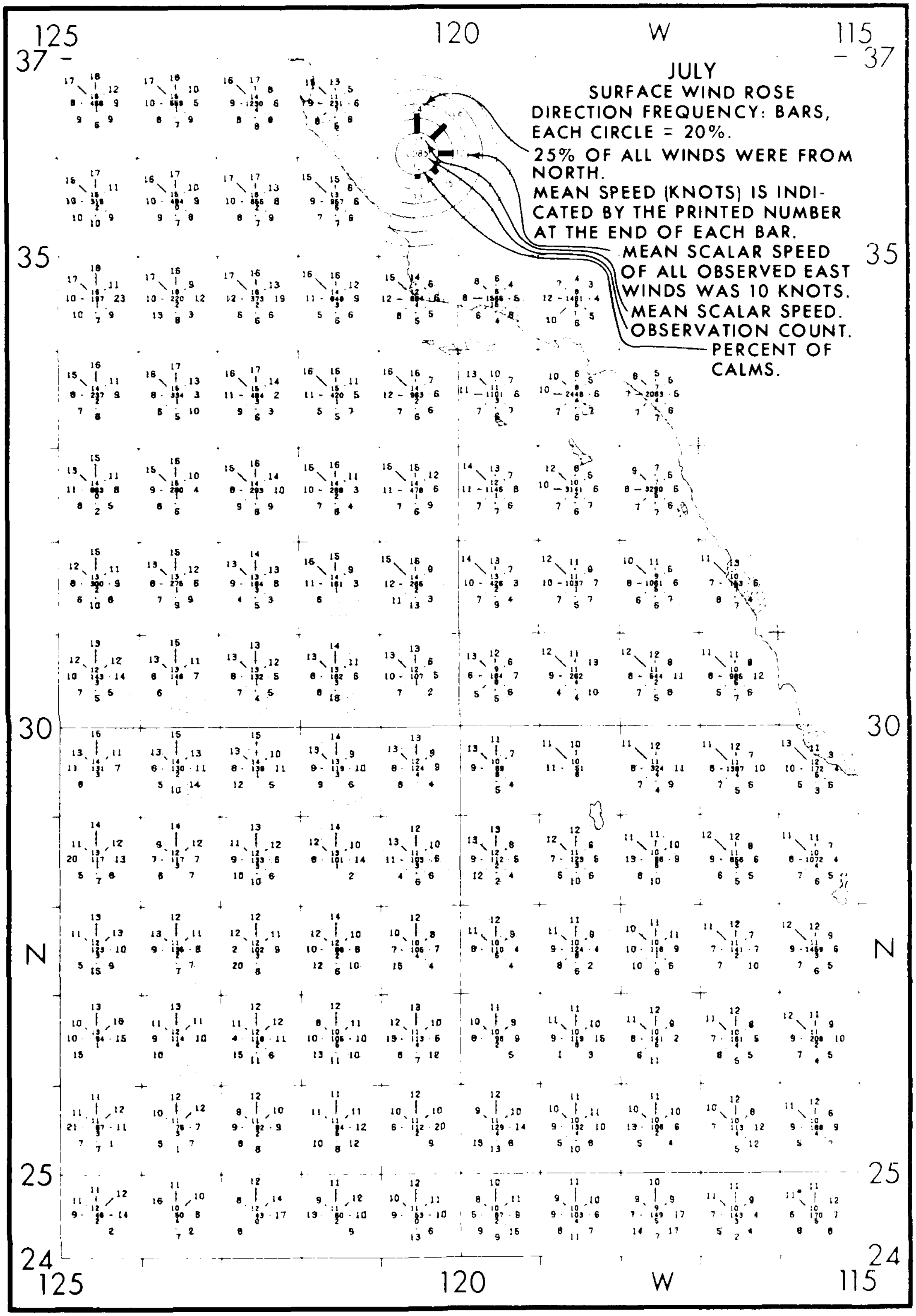
CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR
VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR
VISIBILITY <2 N. MILES

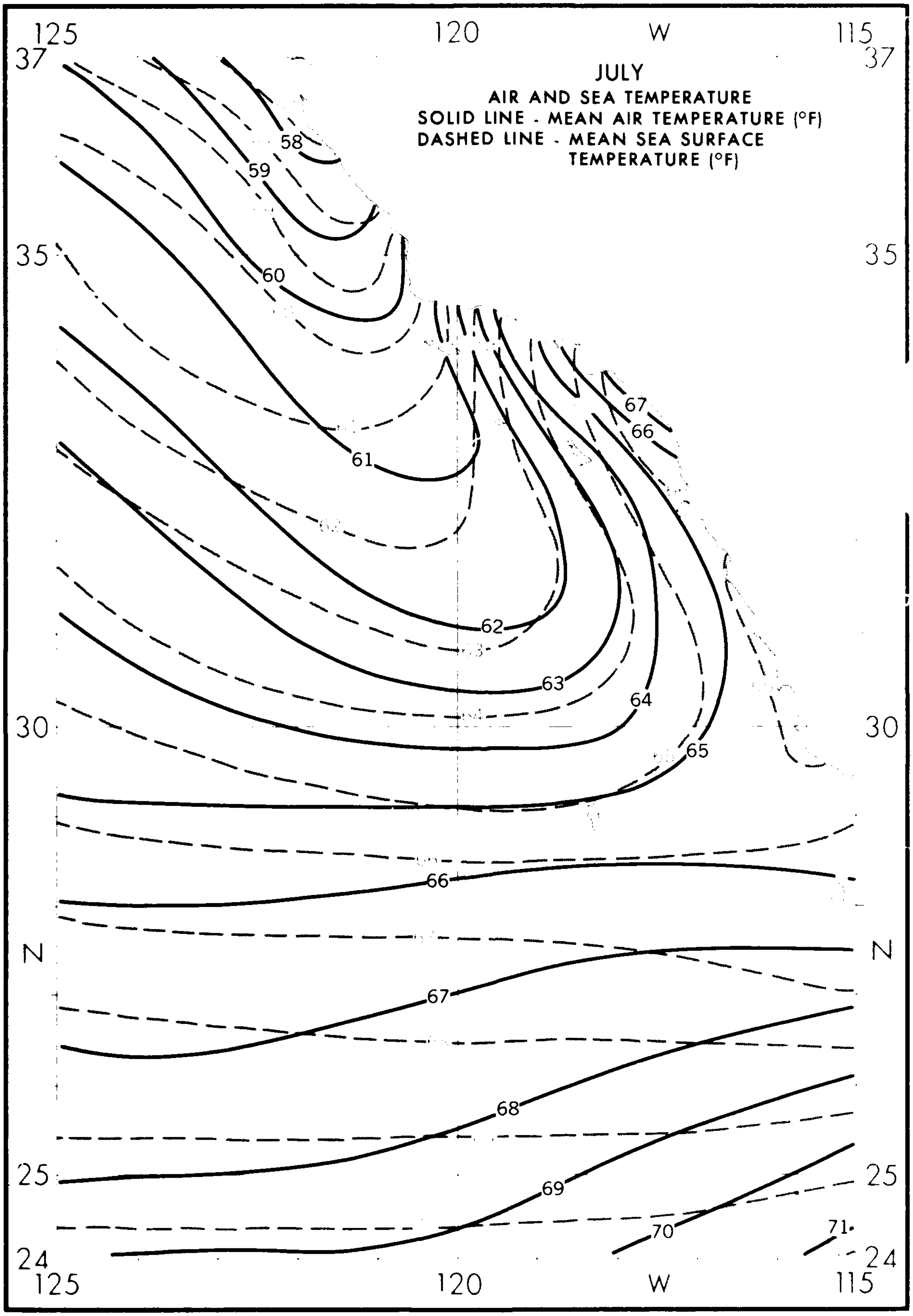

125
120
W
115
37
37
JULY
WIND-VISIBILITY-CLOUDINESS
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.
DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.
35
35
20
10
15
15
10
30
30
N
N
10
15
20
25
25
25
24
24
125
120
W
115


125
120
W
115
37
37
JULY
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)
16
11
12
13
35
35
15
7
8
11
9
7
14
8
10
13
30
30
12
N
N
11
10
25
25
24
24
125
120
W
115

JULY
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS
125
120
W
115
37
35
30
25
24
N
30
40
50
60
70
80
80
50
50
60
60
<1%


JULY
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED 11-21 KNOTS
DASHED LINE - WIND SPEED 22-33 KNOTS
125
120
W
115
37
35
30
25
24
N
40
50
20
30
20
40
30
40
40
50


125
120
W
115
37
35
30
N
25
24
JULY
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.

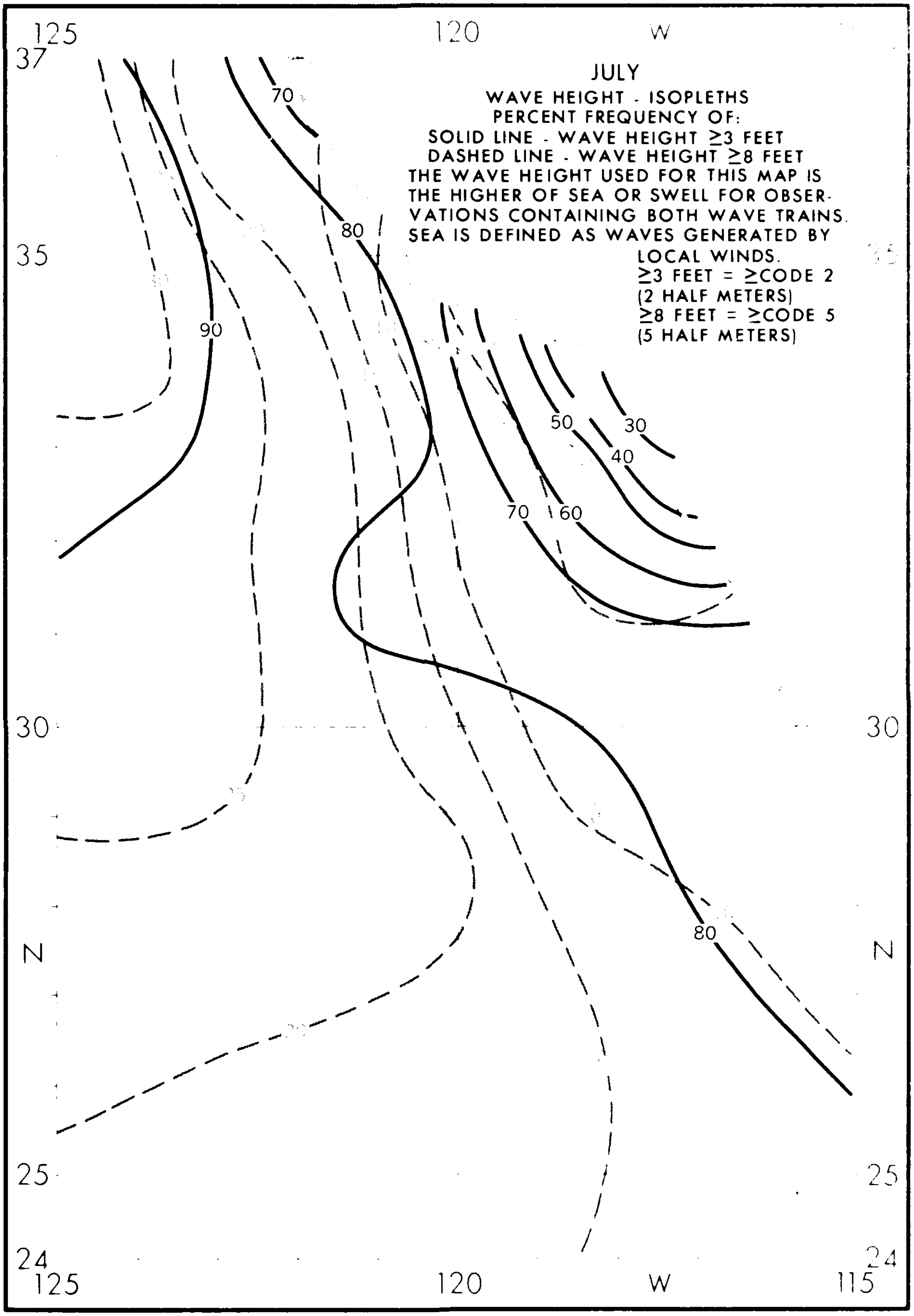


JULY

AIR AND SEA TEMPERATURE

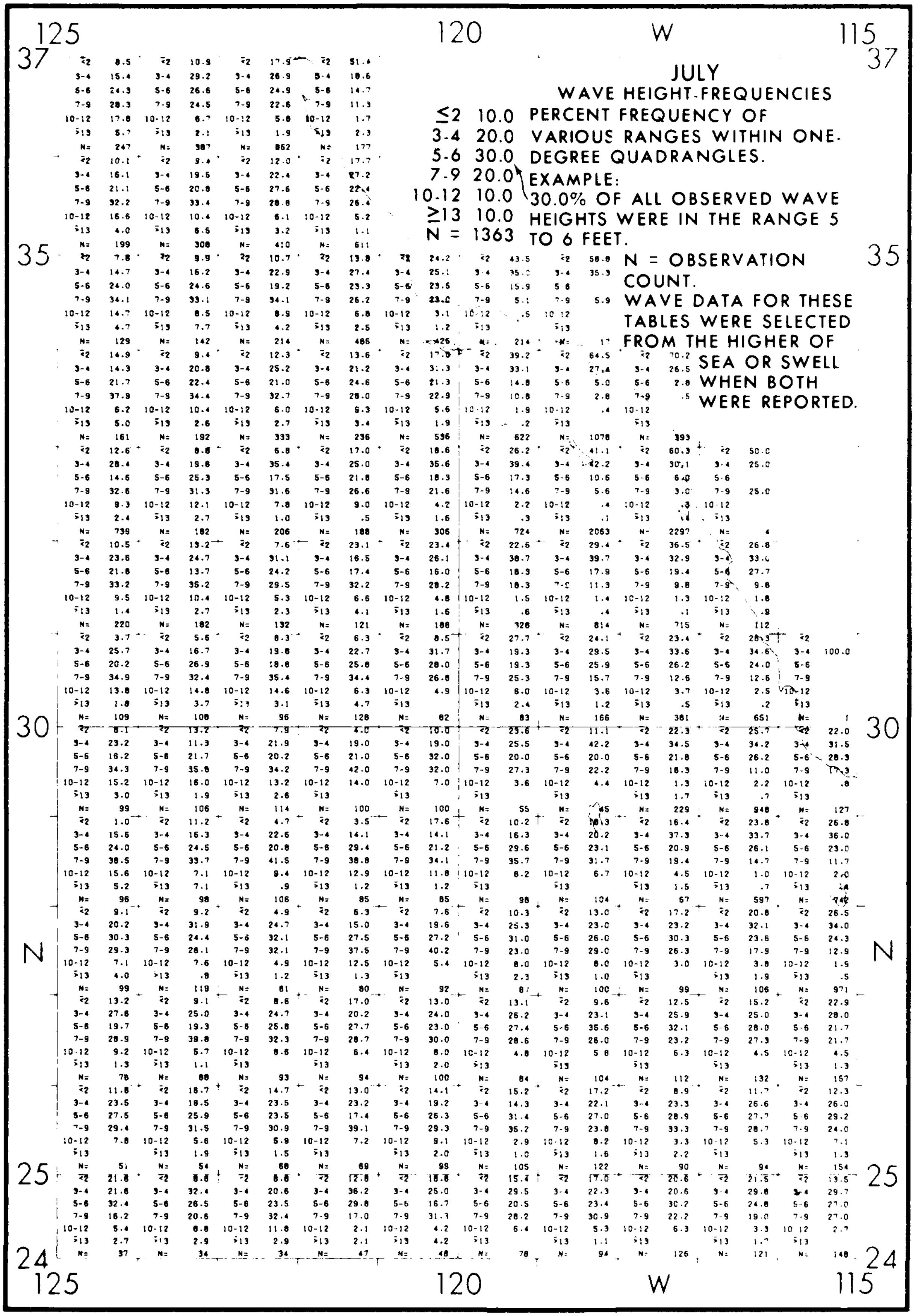
SOLID LINE - MEAN AIR TEMPERATURE (°F)

DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)



JULY

WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)



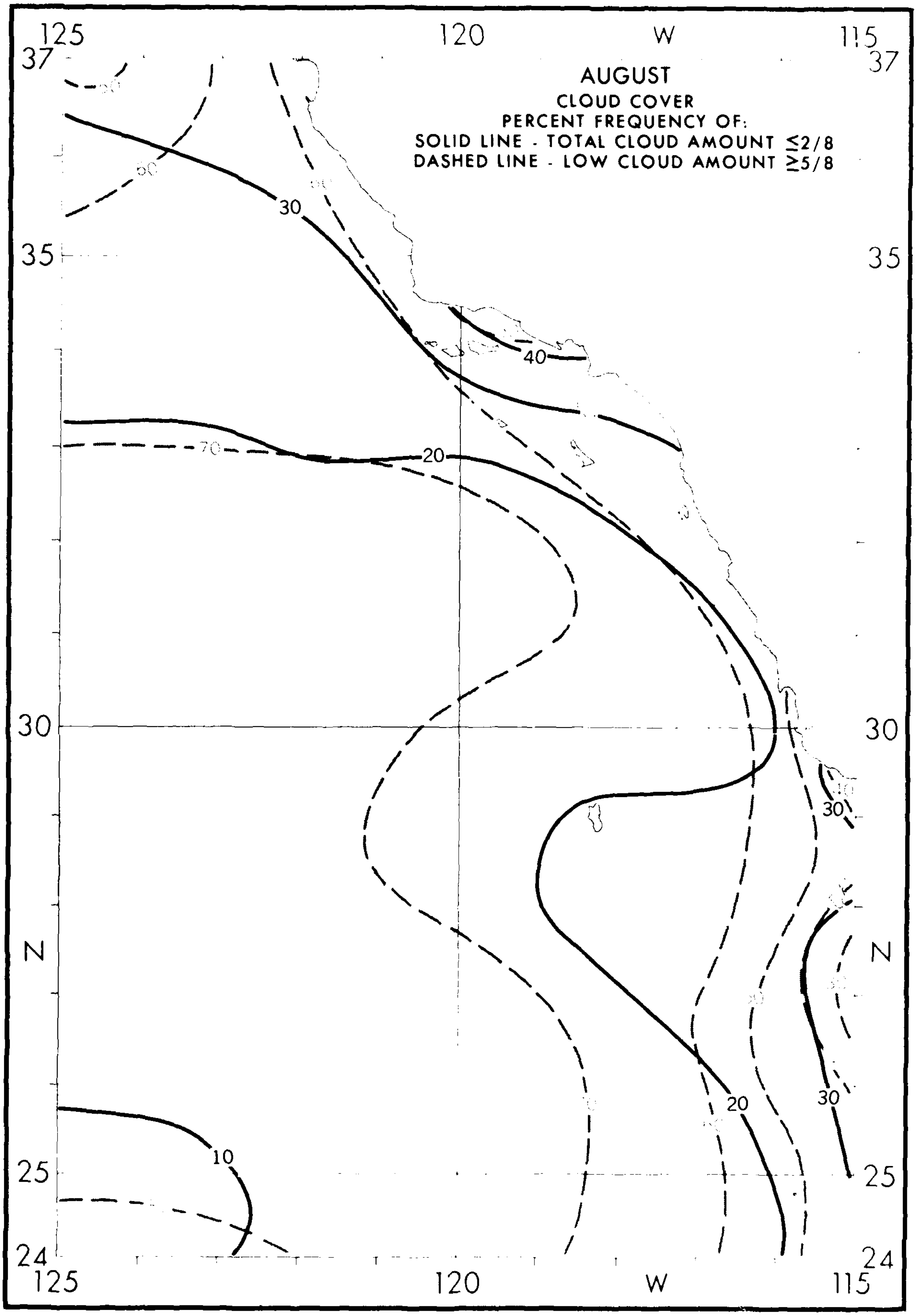
JULY

WAVE HEIGHT-FREQUENCIES

≤2	10.0	PERCENT FREQUENCY OF
3-4	20.0	VARIOUS RANGES WITHIN ONE-
5-6	30.0	DEGREE QUADRANGLES.
7-9	20.0	EXAMPLE:
10-12	10.0	30.0% OF ALL OBSERVED WAVE
≥13	10.0	HEIGHTS WERE IN THE RANGE 5
N =	1363	TO 6 FEET.

N = OBSERVATION COUNT.

WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.



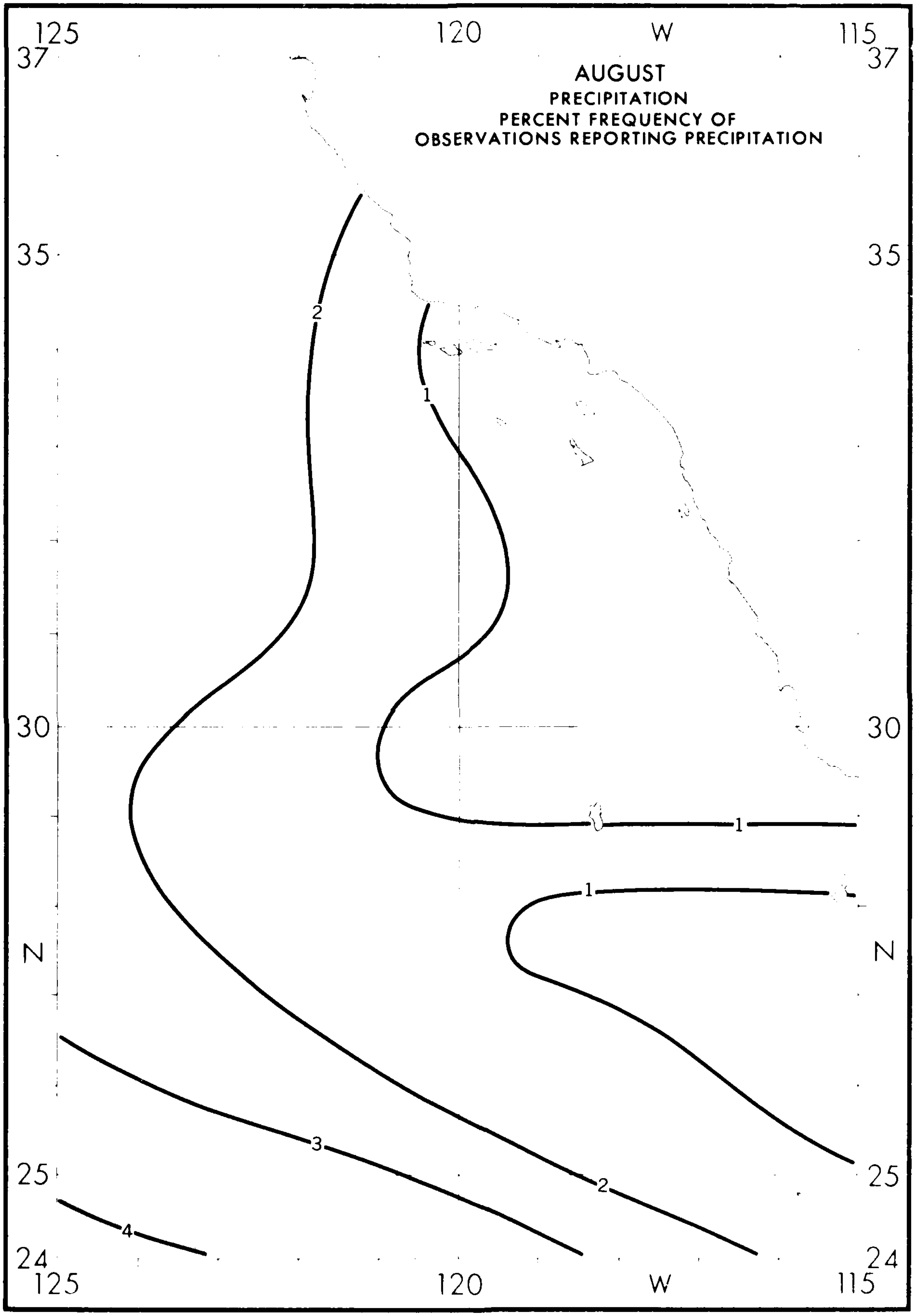
AUGUST

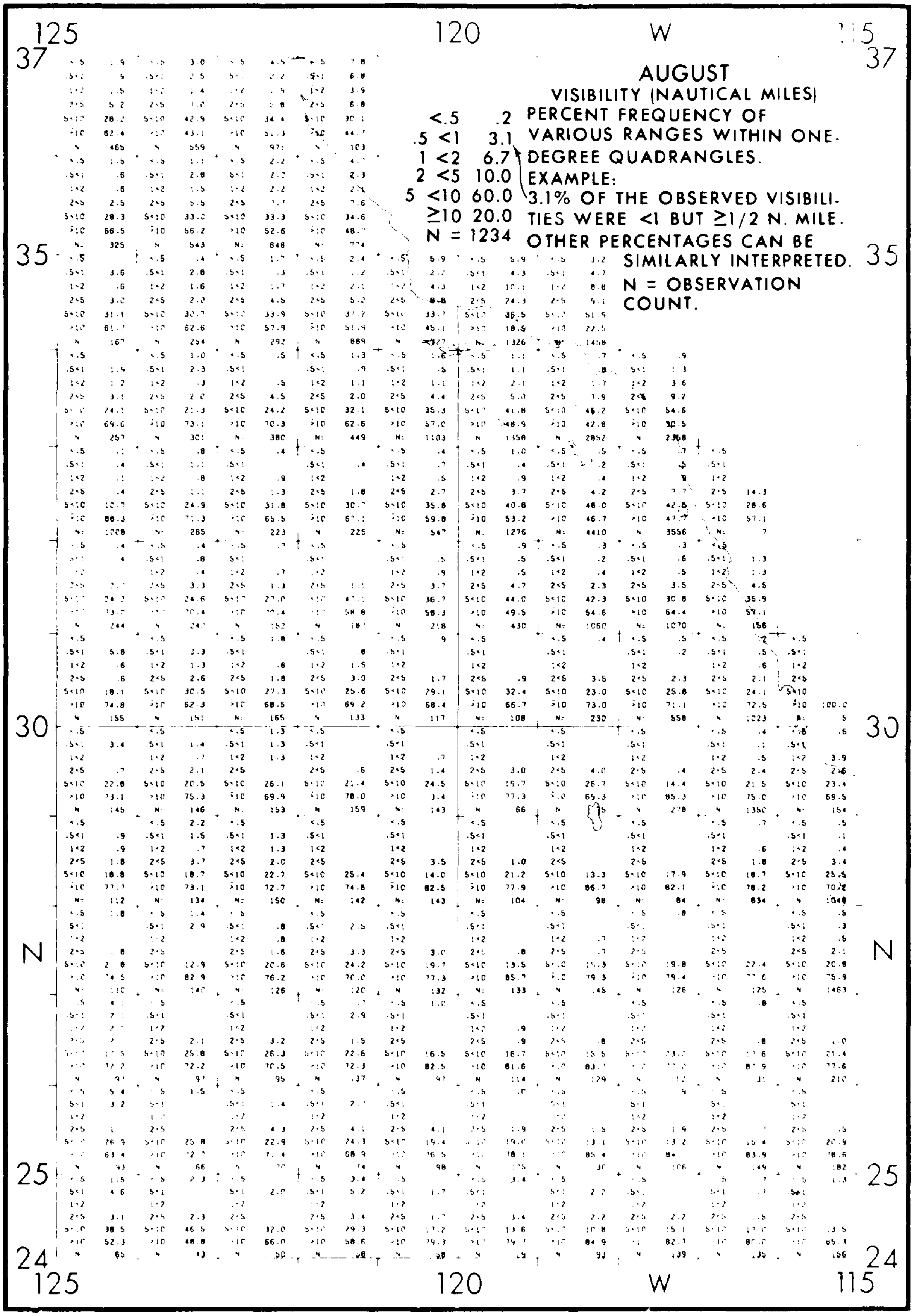
CLOUD COVER

PERCENT FREQUENCY OF:

SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8

DASHED LINE - LOW CLOUD AMOUNT ≥5/8


125
120
W
115
37
37
AUGUST
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
35
35
2
1
30
30
1
1
N
N
3
2
25
25
4
24
24
125
120
W
115



AUGUST

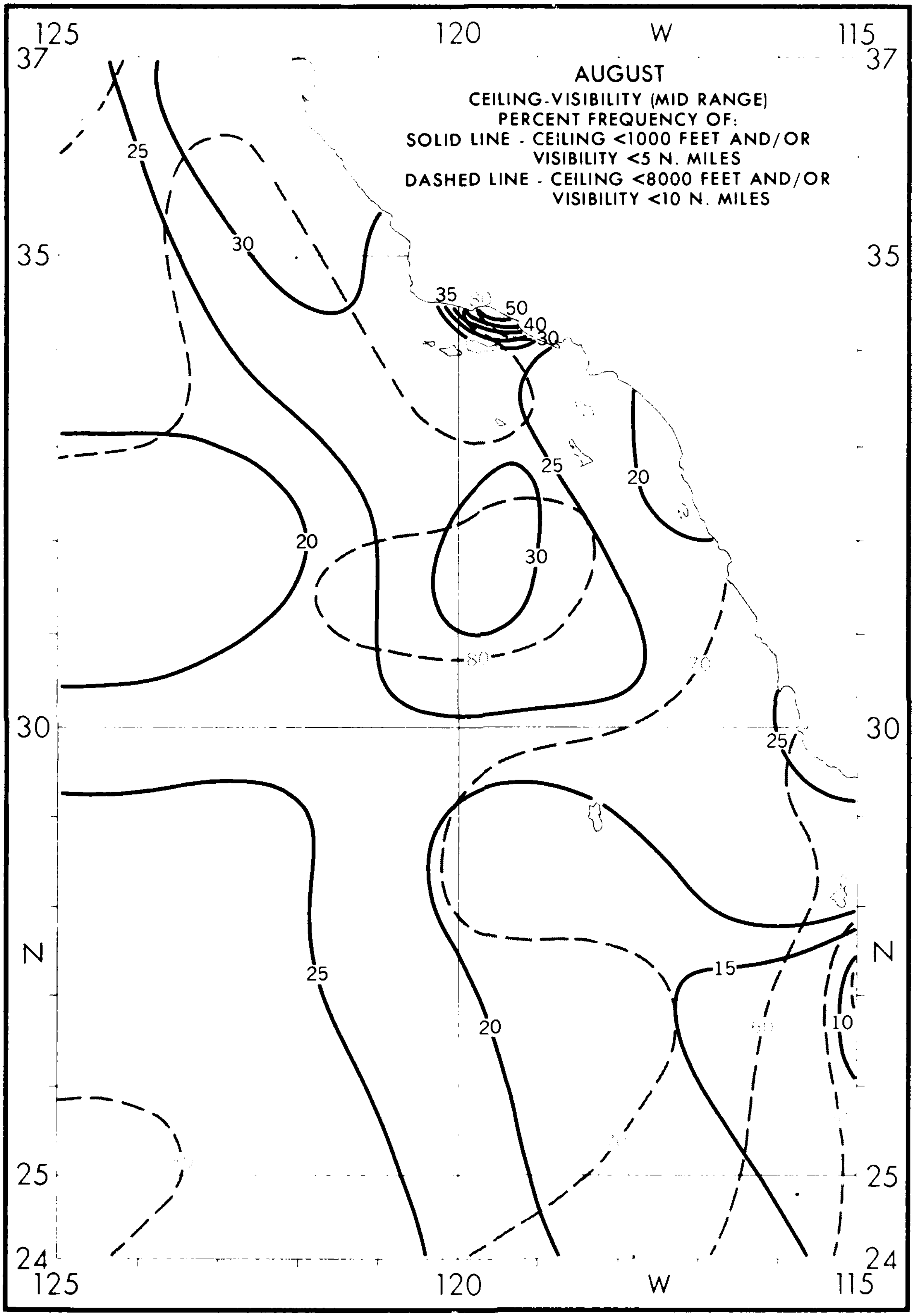
VISIBILITY (NAUTICAL MILES)

PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

EXAMPLE:

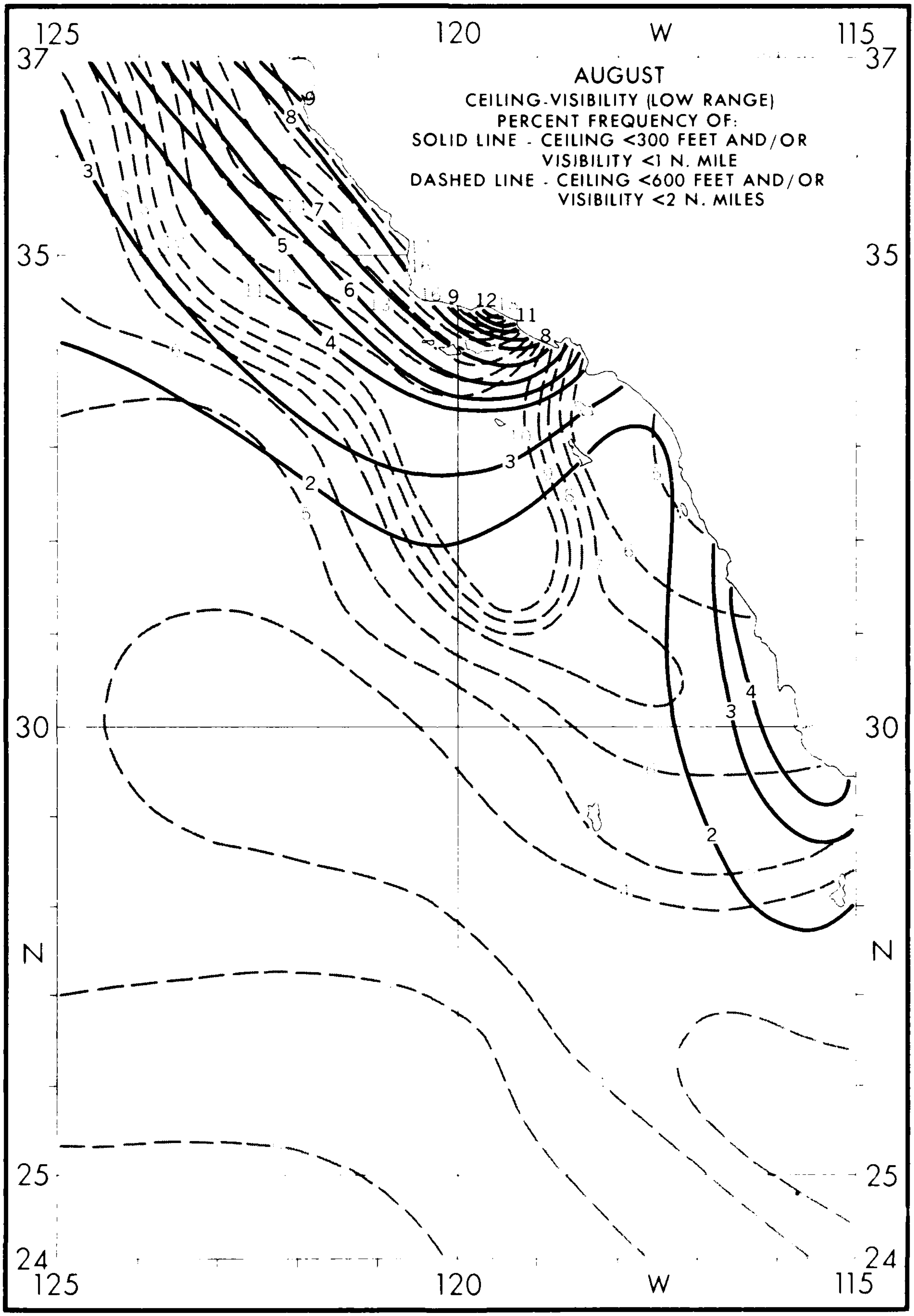
3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.

N = OBSERVATION COUNT.



AUGUST

CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR
VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR
VISIBILITY <10 N. MILES



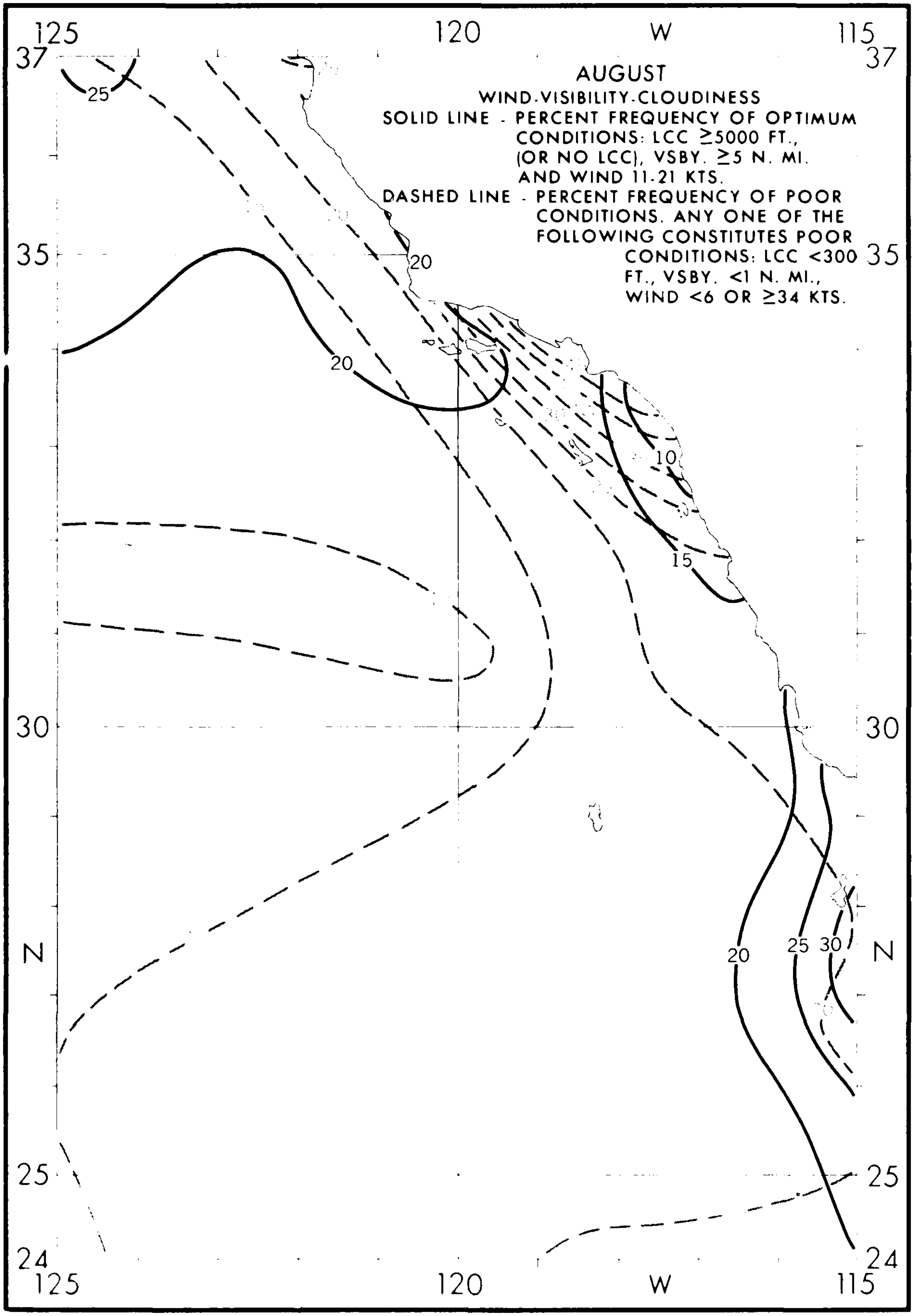
AUGUST

CEILING-VISIBILITY (LOW RANGE)

PERCENT FREQUENCY OF:

SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE

DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES

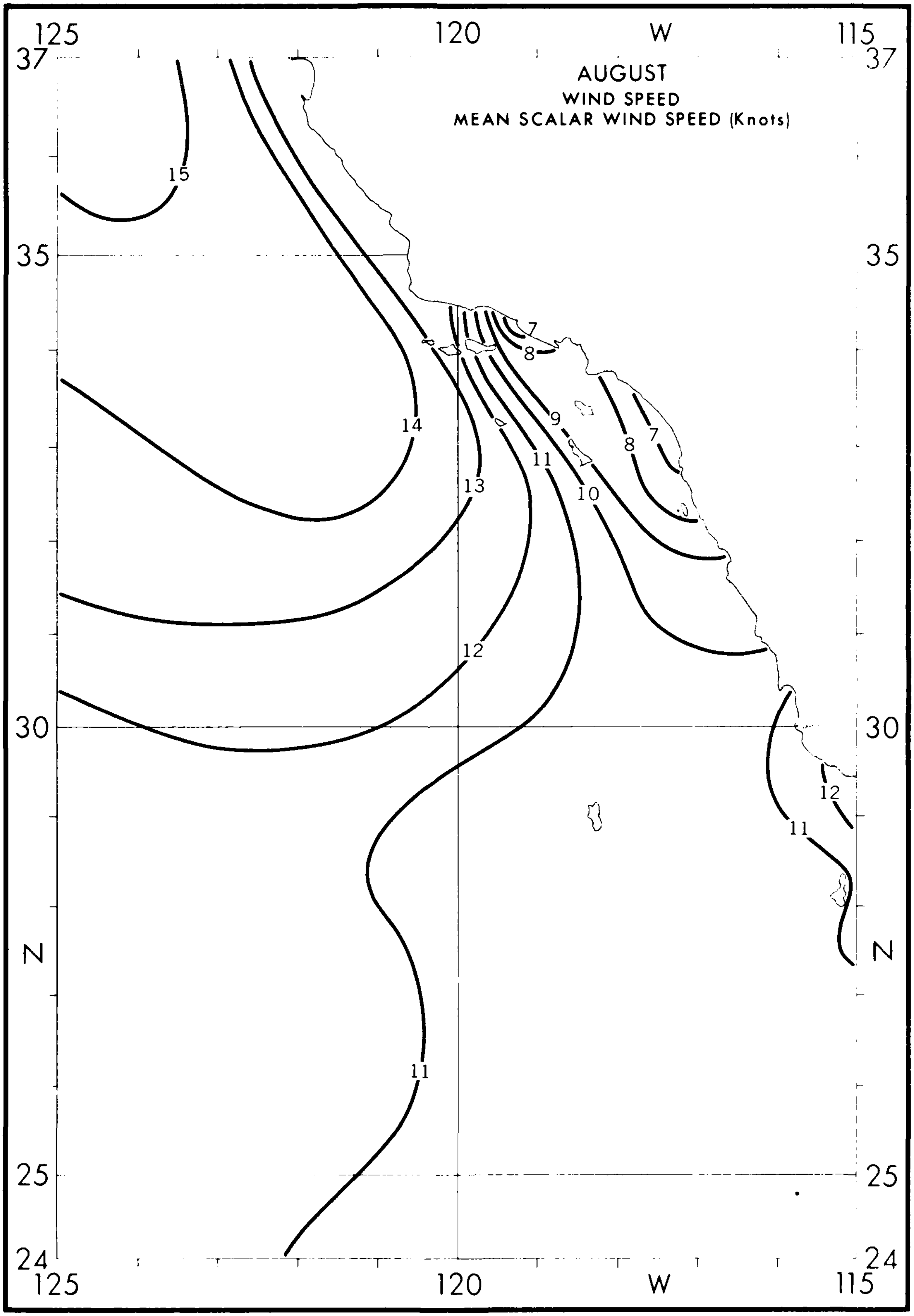


AUGUST

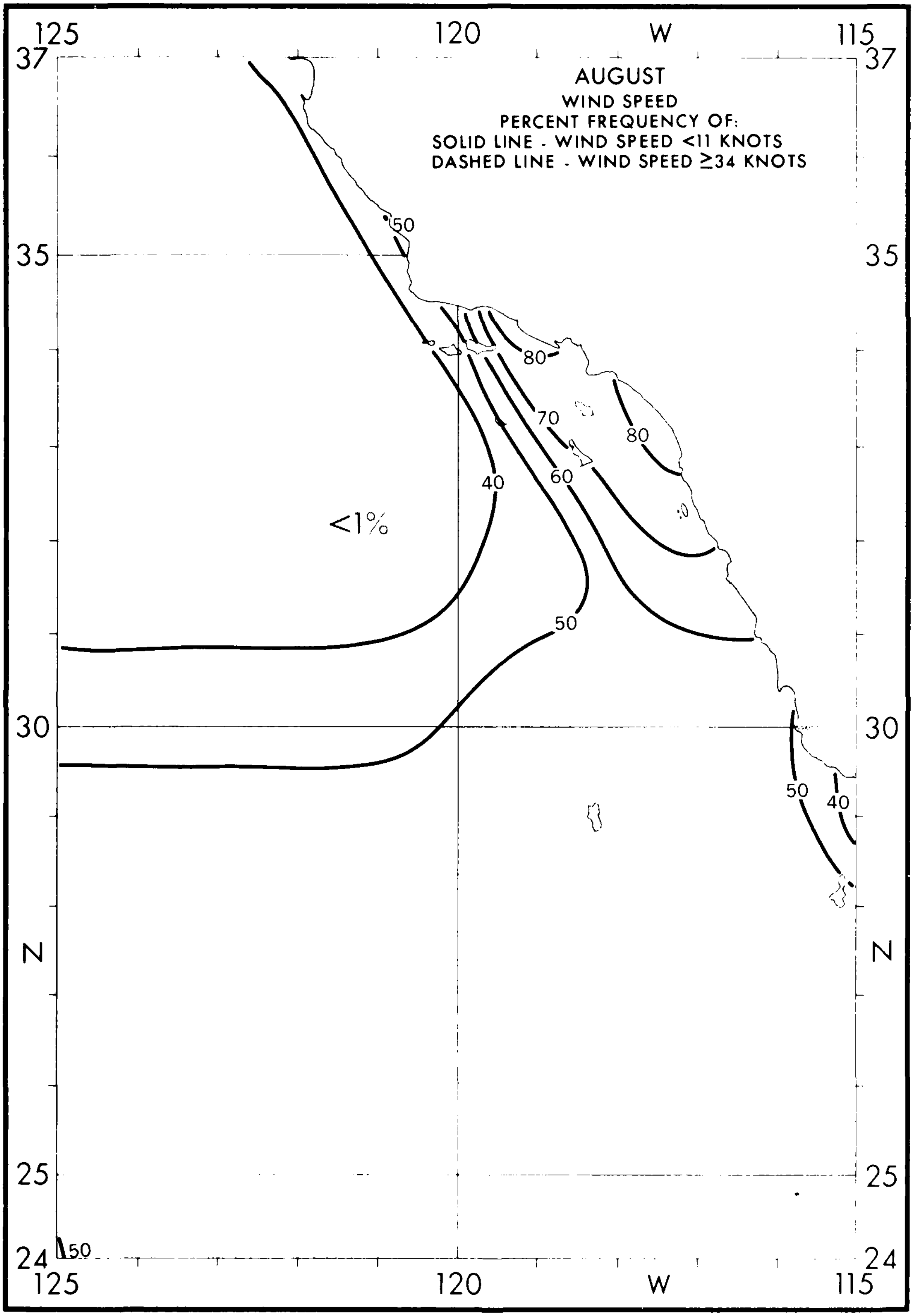
WIND-VISIBILITY-CLOUDINESS

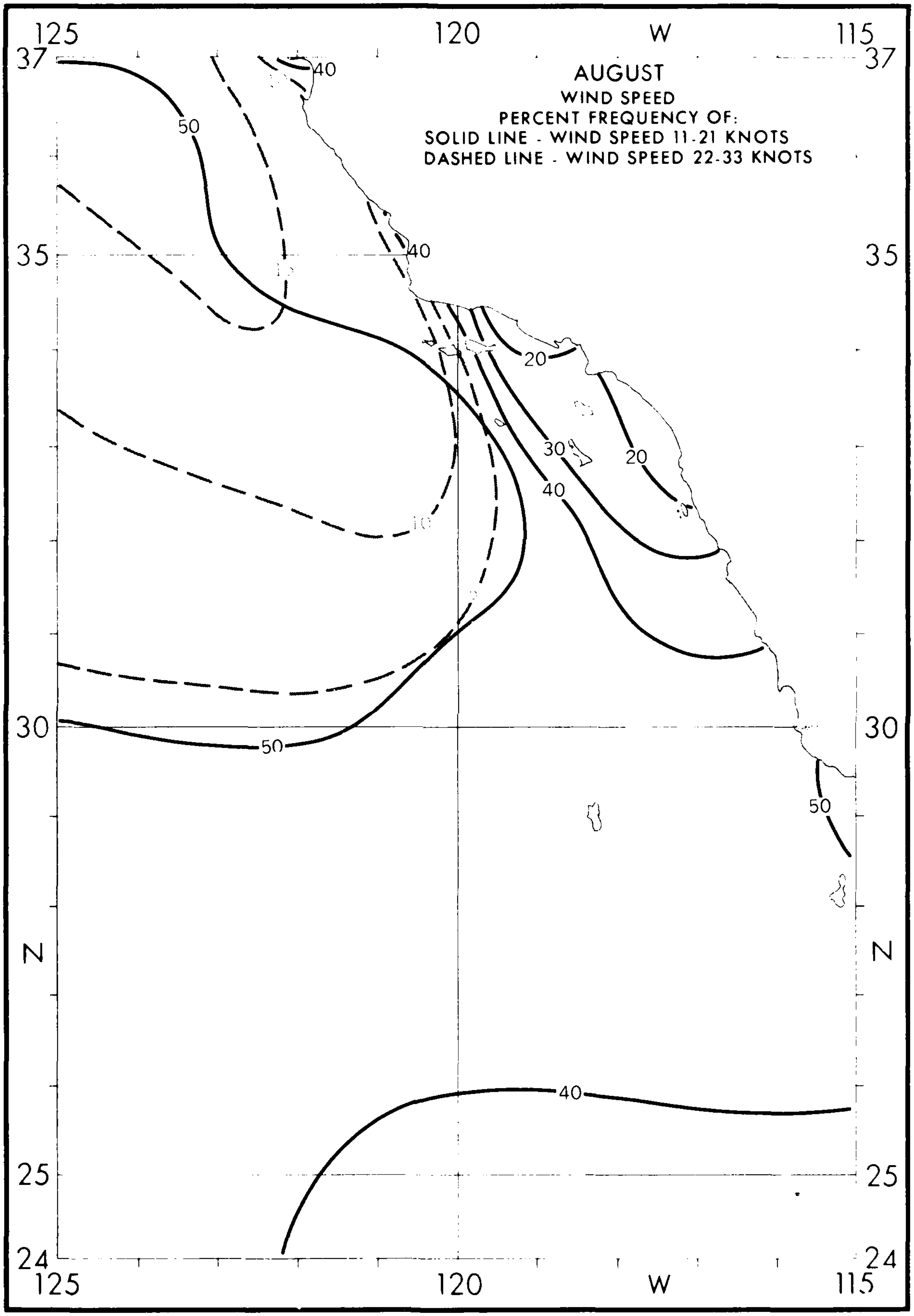
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.

DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.



AUGUST
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)


AUGUST
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS
125
120
W
115
37
35
30
N
25
24
50
80
70
80
60
40
<1%
50
50
40
50



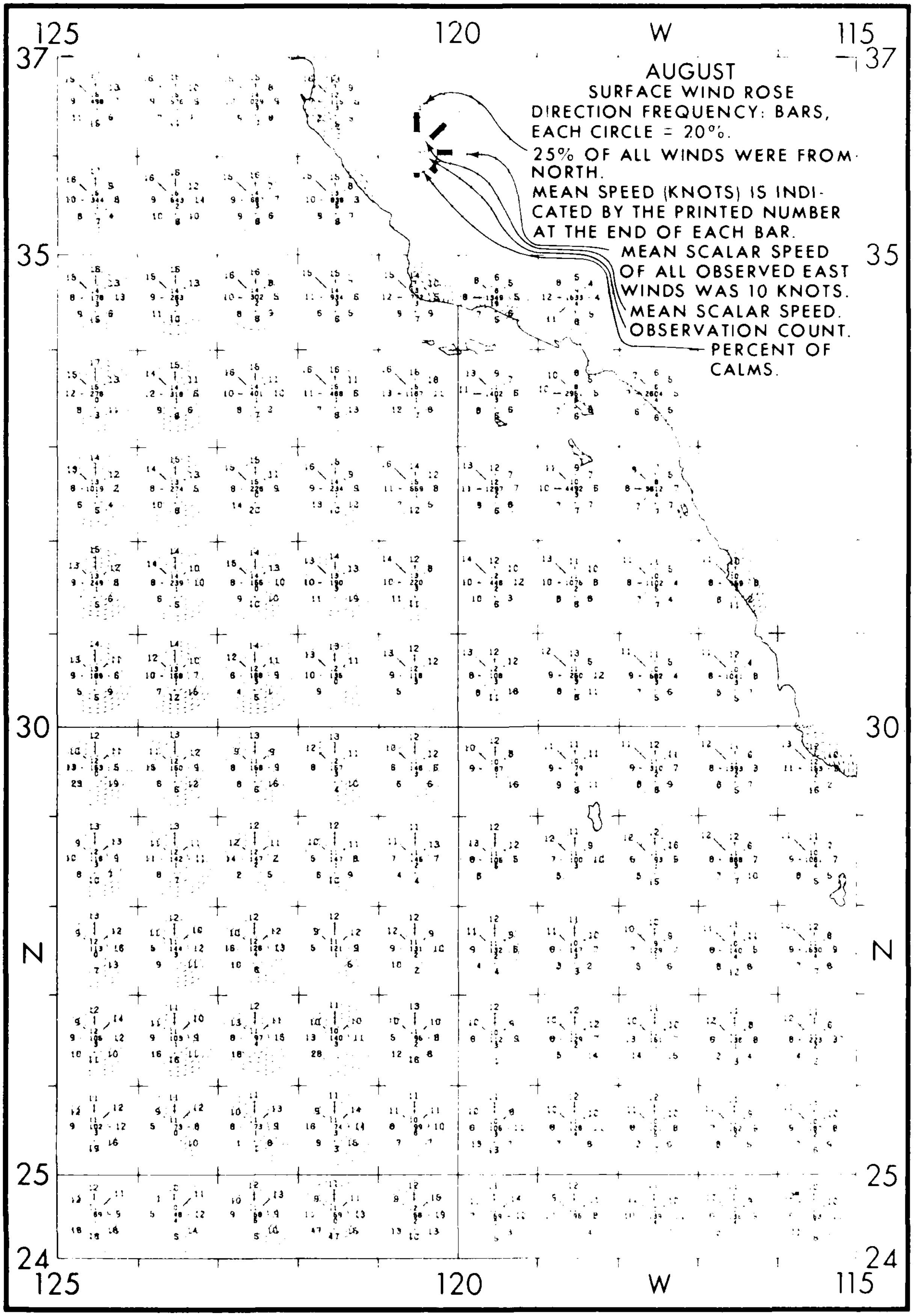
AUGUST

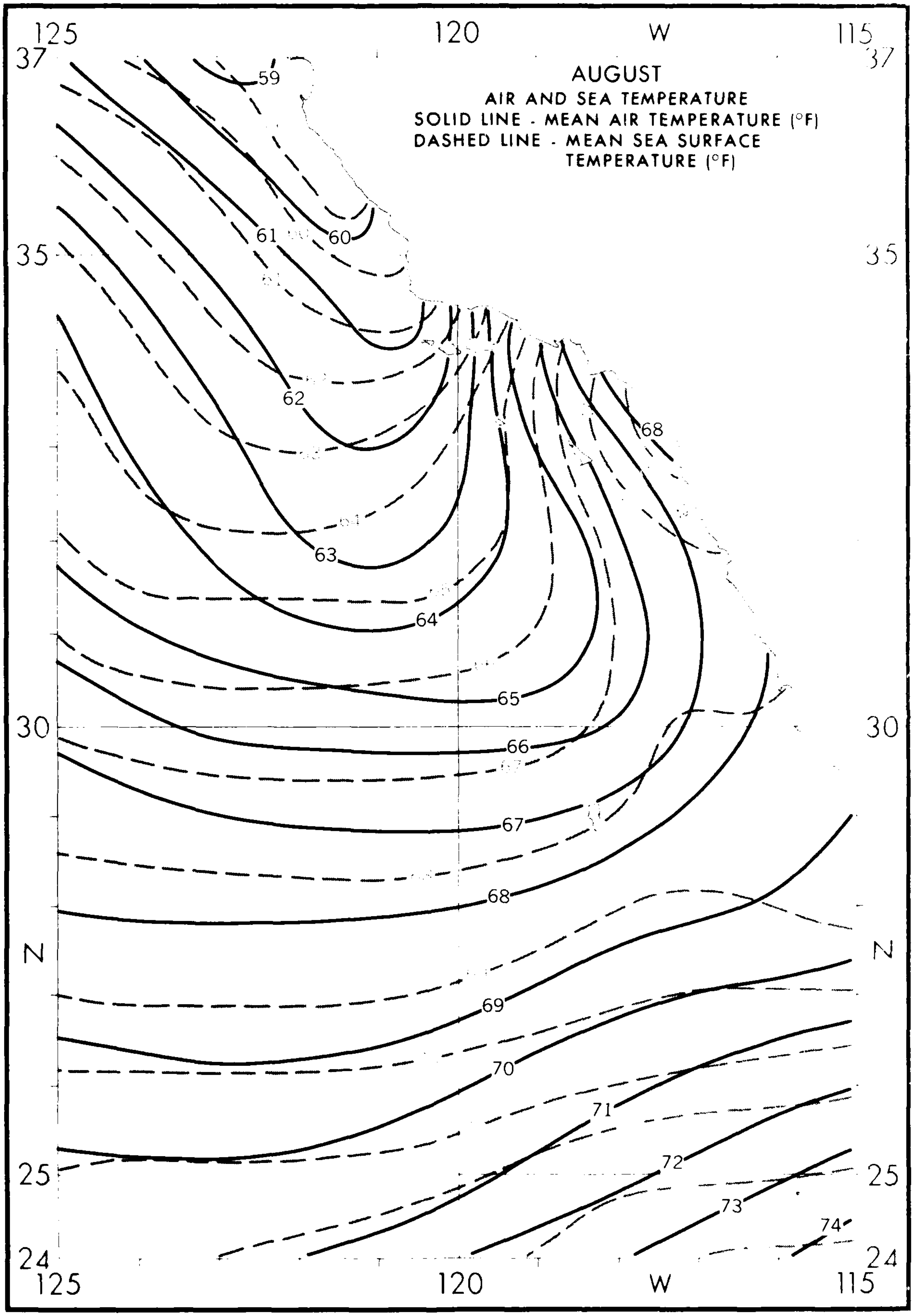
WIND SPEED

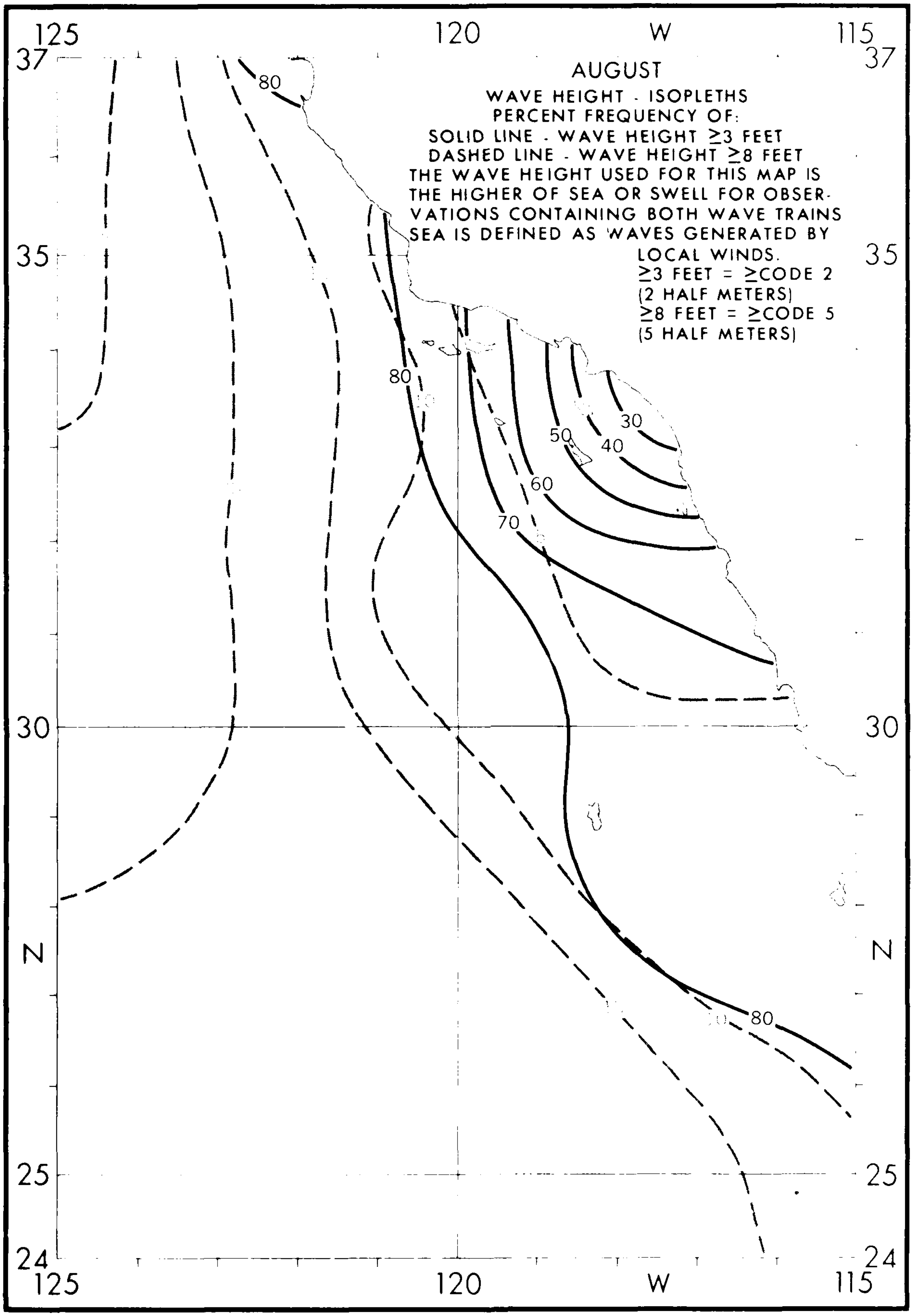
PERCENT FREQUENCY OF:

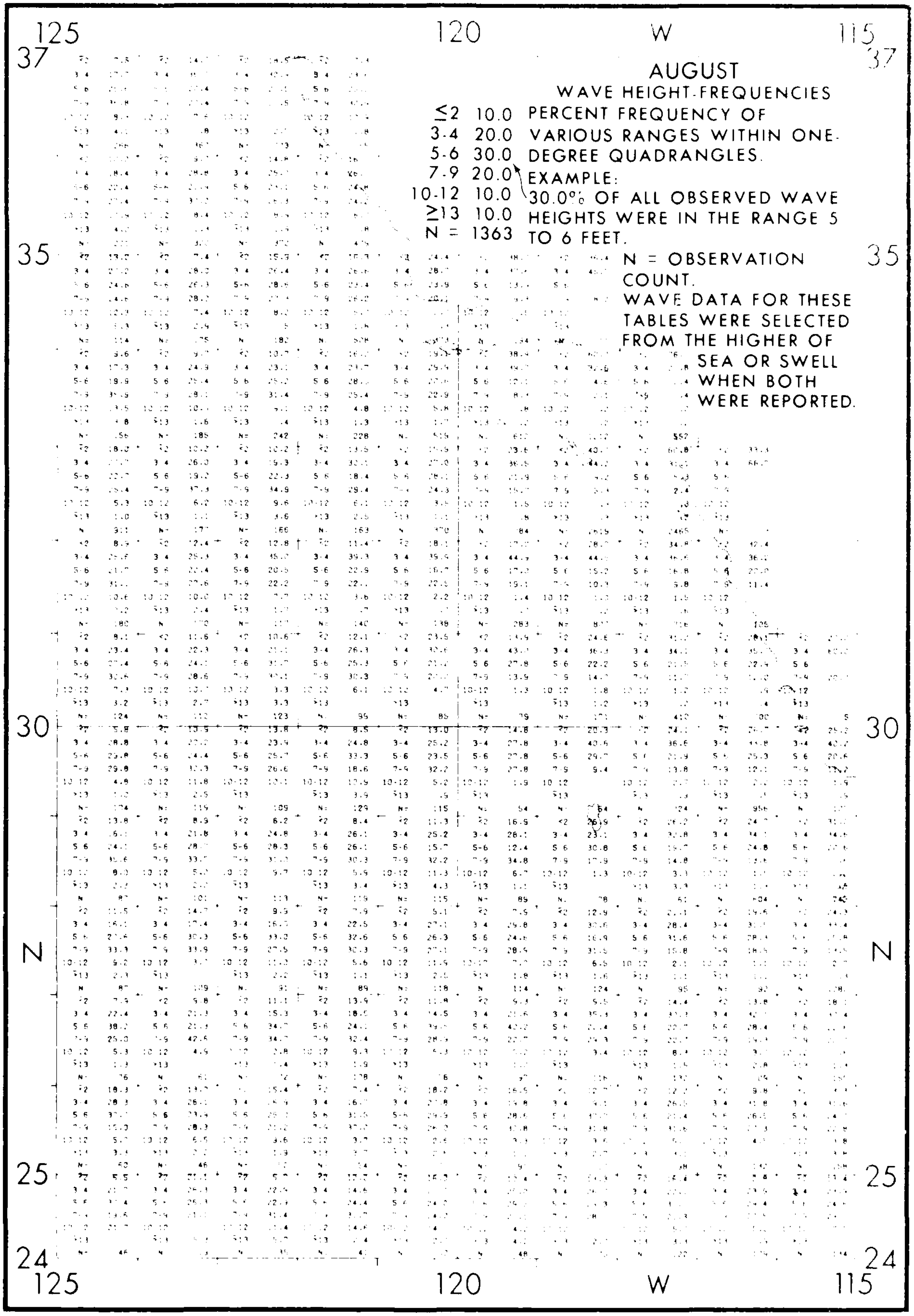
SOLID LINE - WIND SPEED 11-21 KNOTS

DASHED LINE - WIND SPEED 22-33 KNOTS


AUGUST
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.
125
120
W
115
37
35
30
N
25
24


125
120
W
115
37
35
30
N
25
24
AUGUST
AIR AND SEA TEMPERATURE
SOLID LINE - MEAN AIR TEMPERATURE (°F)
DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74


AUGUST
WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS
THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS
SEA IS DEFINED AS WAVES GENERATED BY
LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)
125
120
W
115
37
35
30
25
24
N
80
80
30
40
50
60
70
80



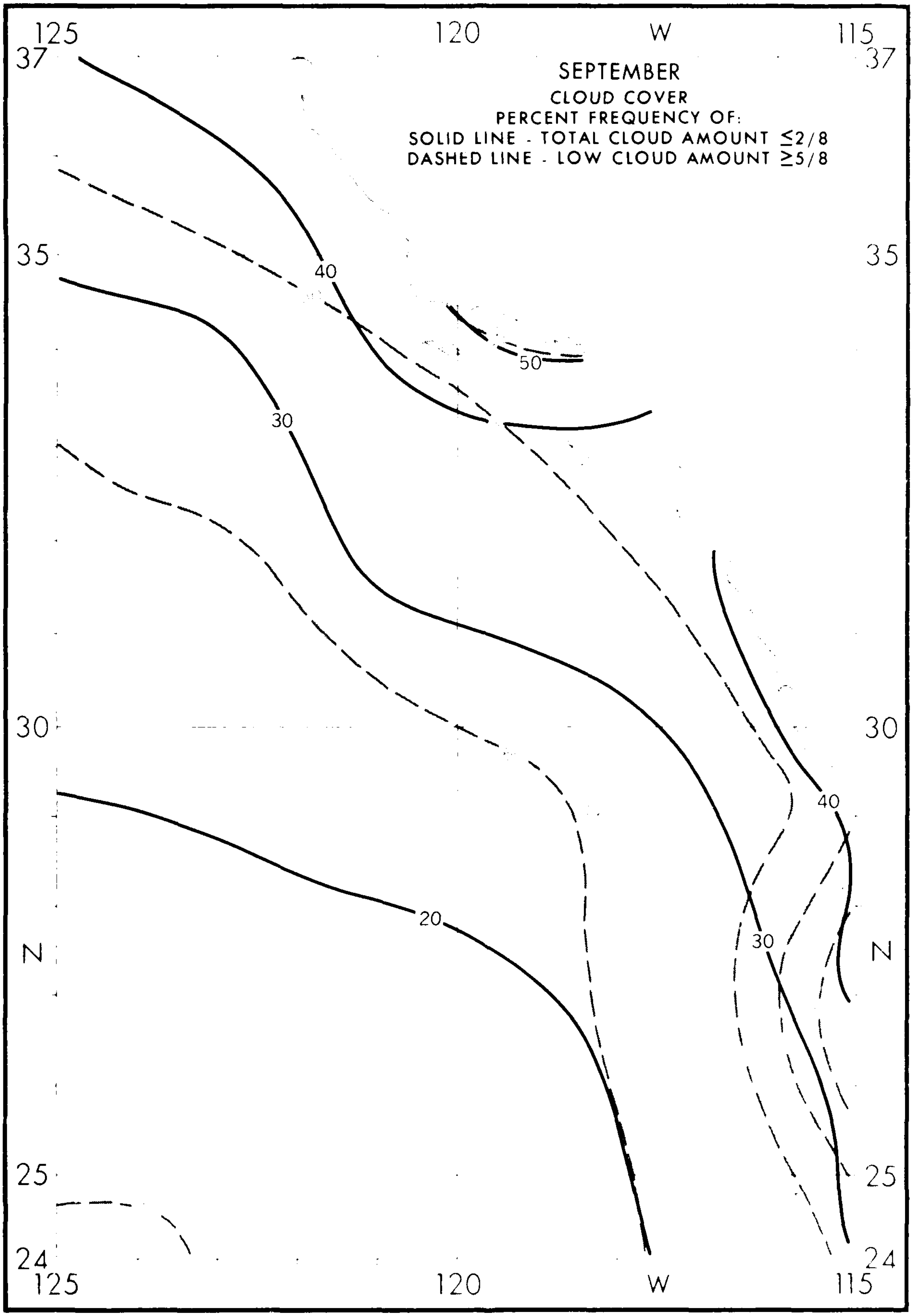
AUGUST

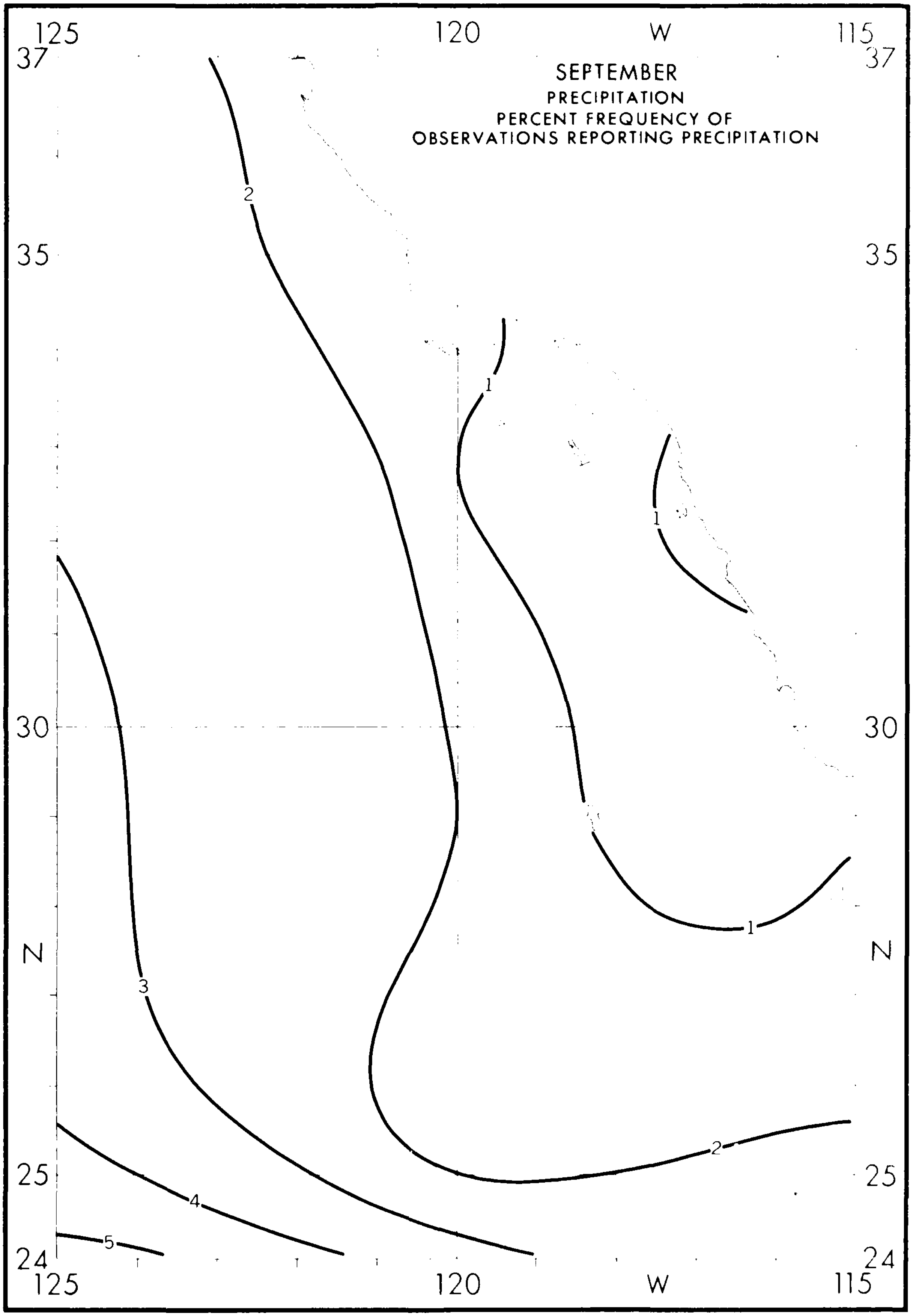
WAVE HEIGHT FREQUENCIES

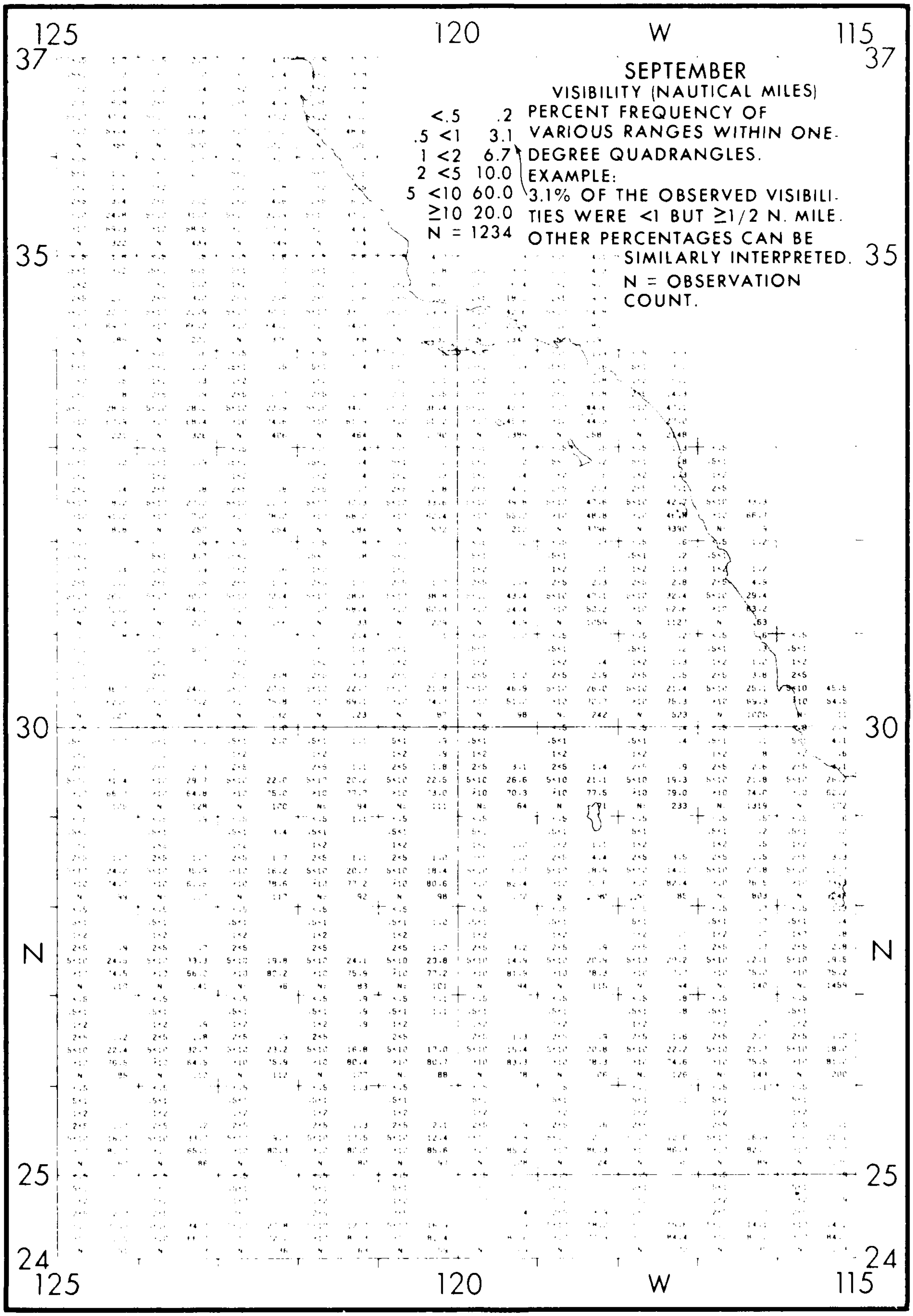
≤2	10.0	PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.
3-4	20.0	
5-6	30.0	
7-9	20.0	EXAMPLE: 30.0% OF ALL OBSERVED WAVE HEIGHTS WERE IN THE RANGE 5 TO 6 FEET.
10-12	10.0	
≥13	10.0	
N =	1363	

N = OBSERVATION COUNT.

WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.


125
120
W
115
37
37
SEPTEMBER
CLOUD COVER
PERCENT FREQUENCY OF:
SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8
DASHED LINE - LOW CLOUD AMOUNT ≥5/8
35
35
40
50
30
30
30
40
20
30
N
N
25
25
24
24
125
120
W
115


SEPTEMBER
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
125
120
W
115
37
35
30
N
25
24
1
1
1
2
2
3
4
5

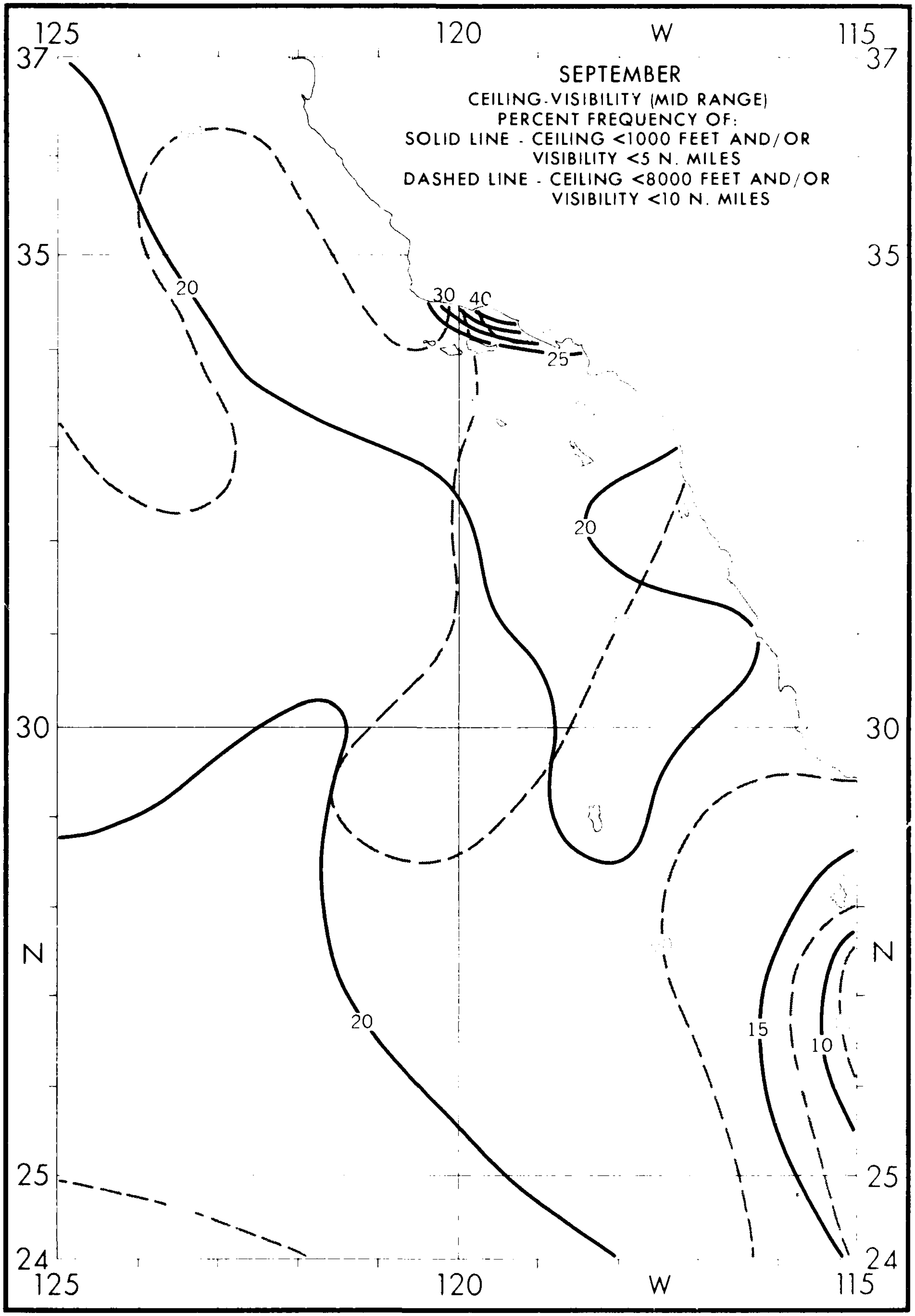


SEPTEMBER

VISIBILITY (NAUTICAL MILES)

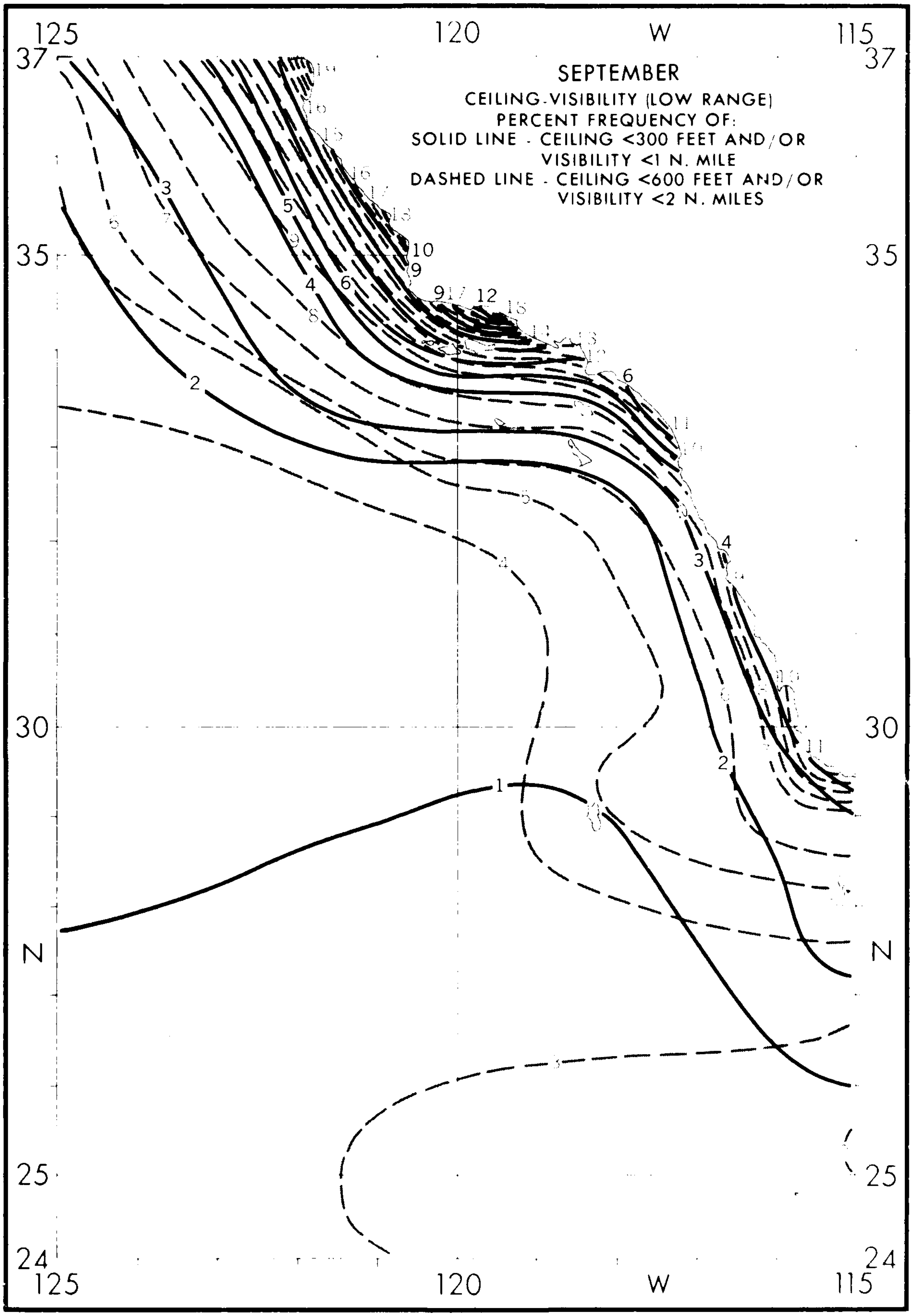
PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

EXAMPLE: 3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED. N = OBSERVATION COUNT.



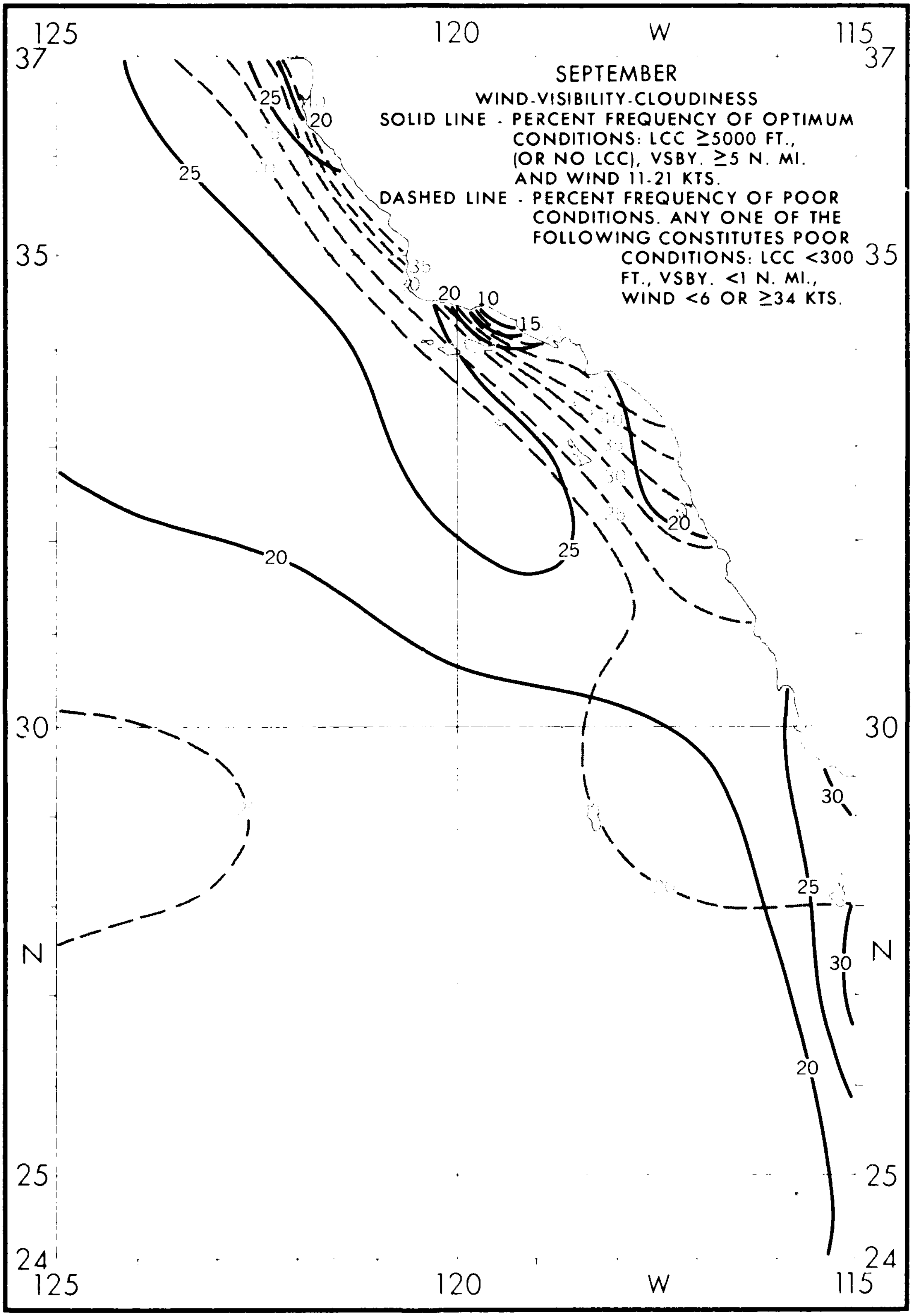
SEPTEMBER

CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR VISIBILITY <10 N. MILES



SEPTEMBER

CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES

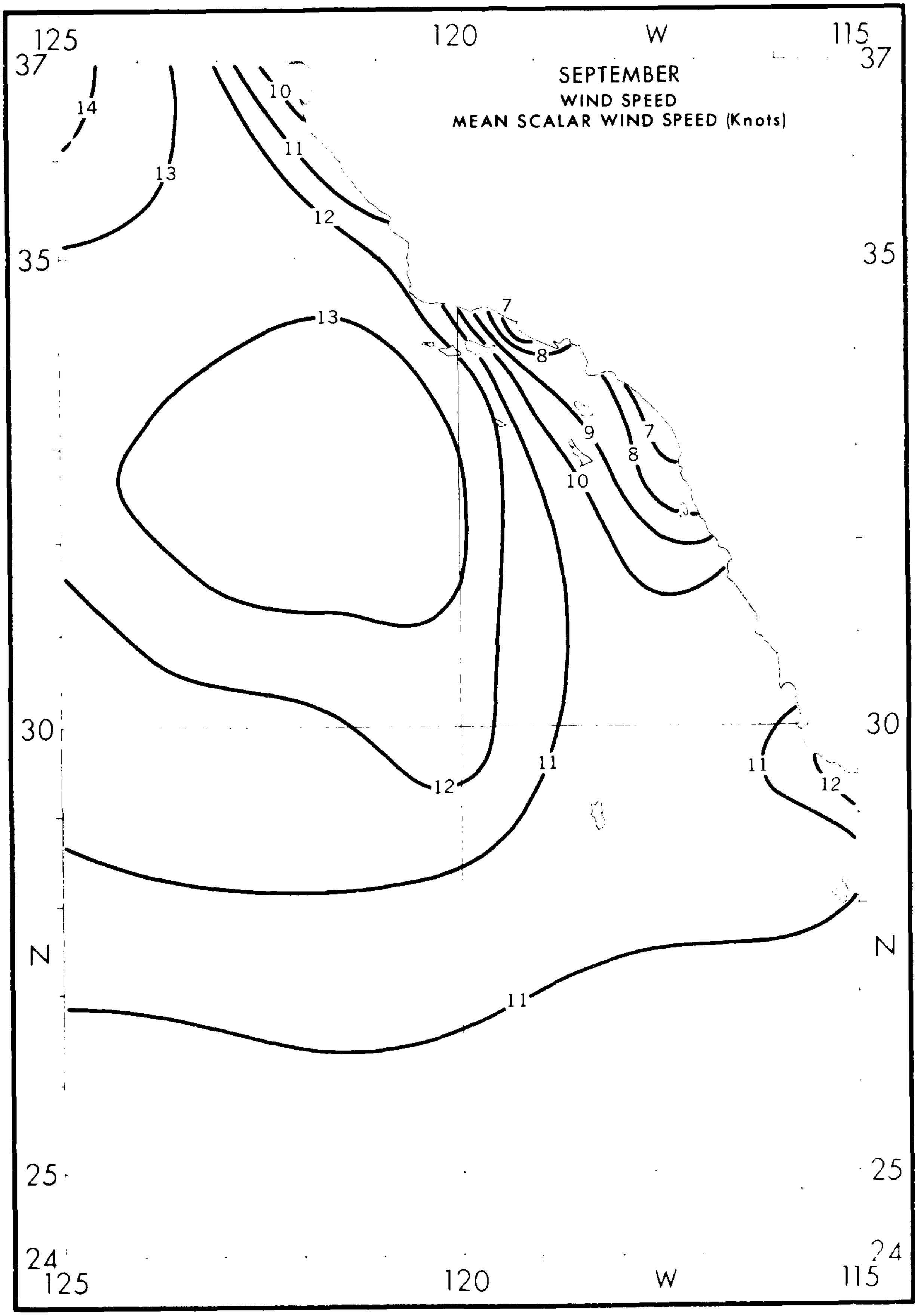


SEPTEMBER

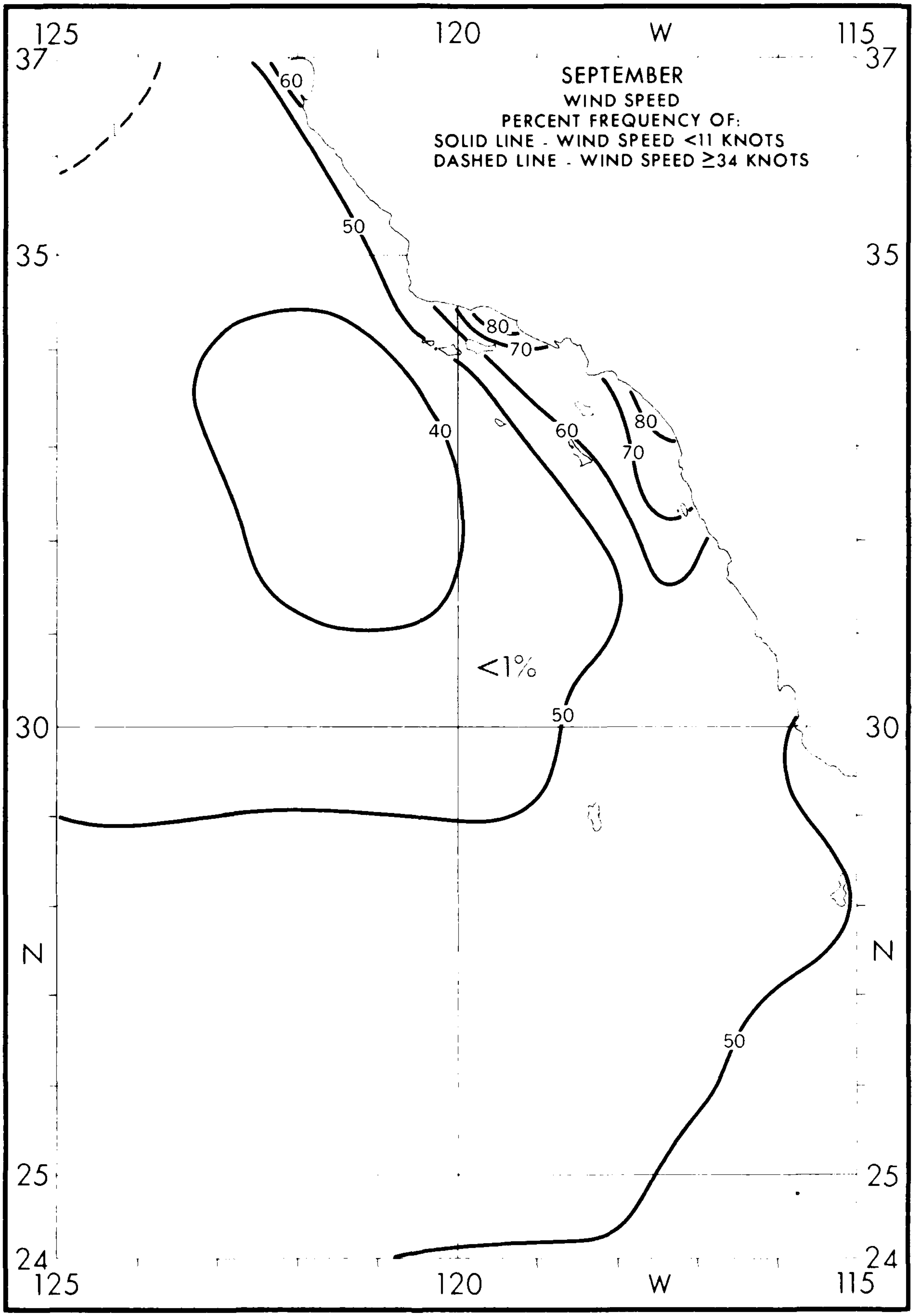
WIND-VISIBILITY-CLOUDINESS

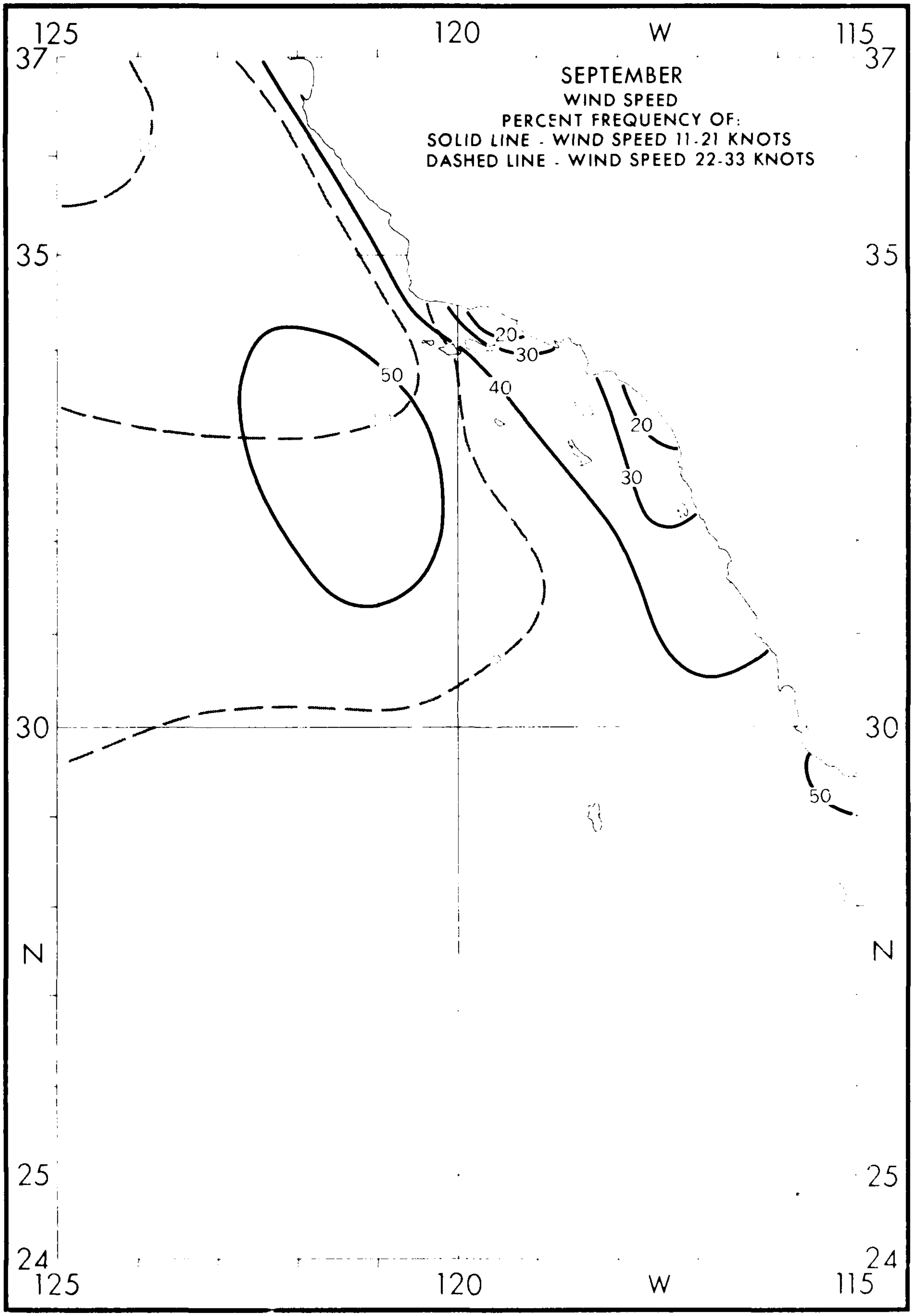
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.

DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.

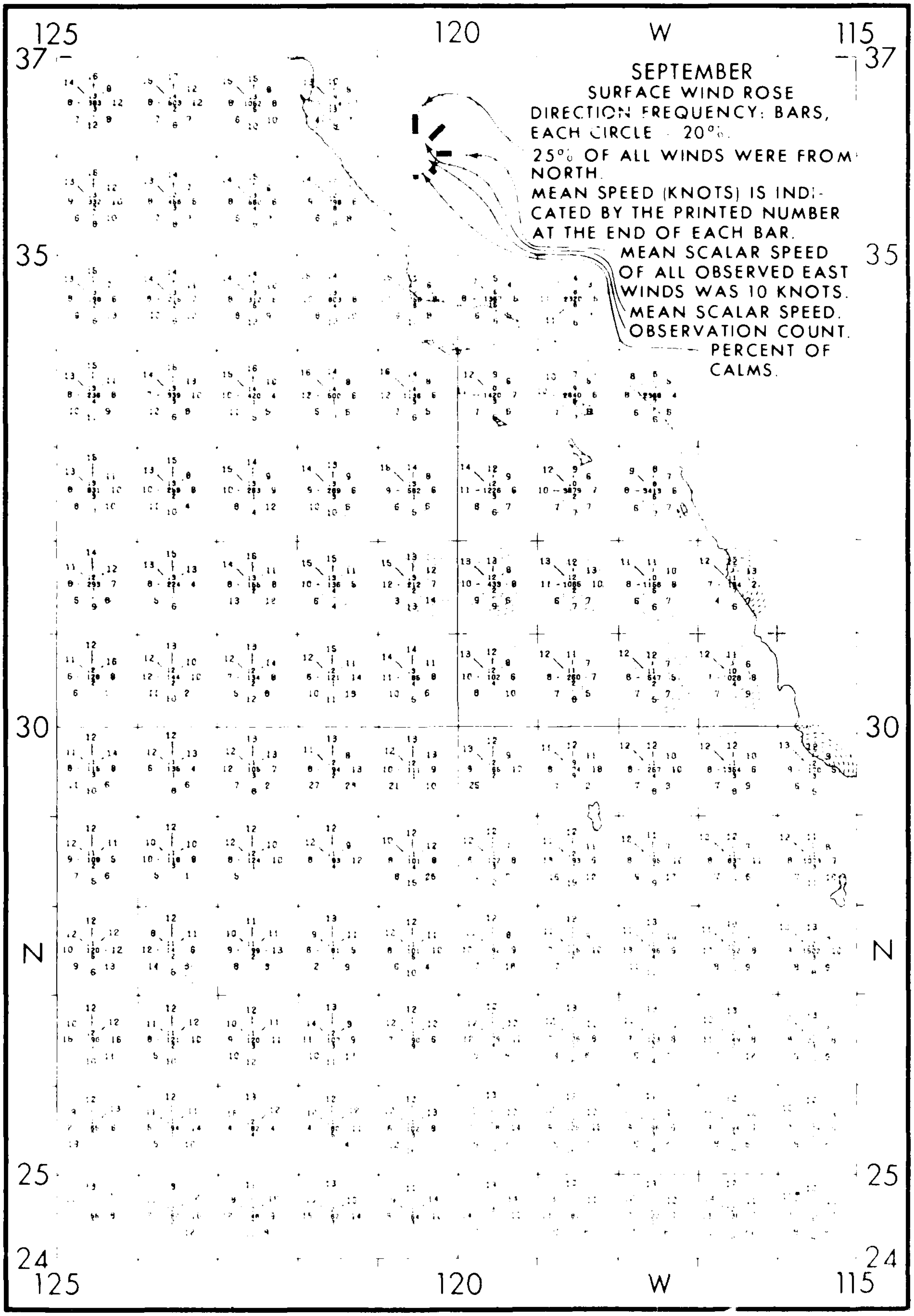


SEPTEMBER
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)

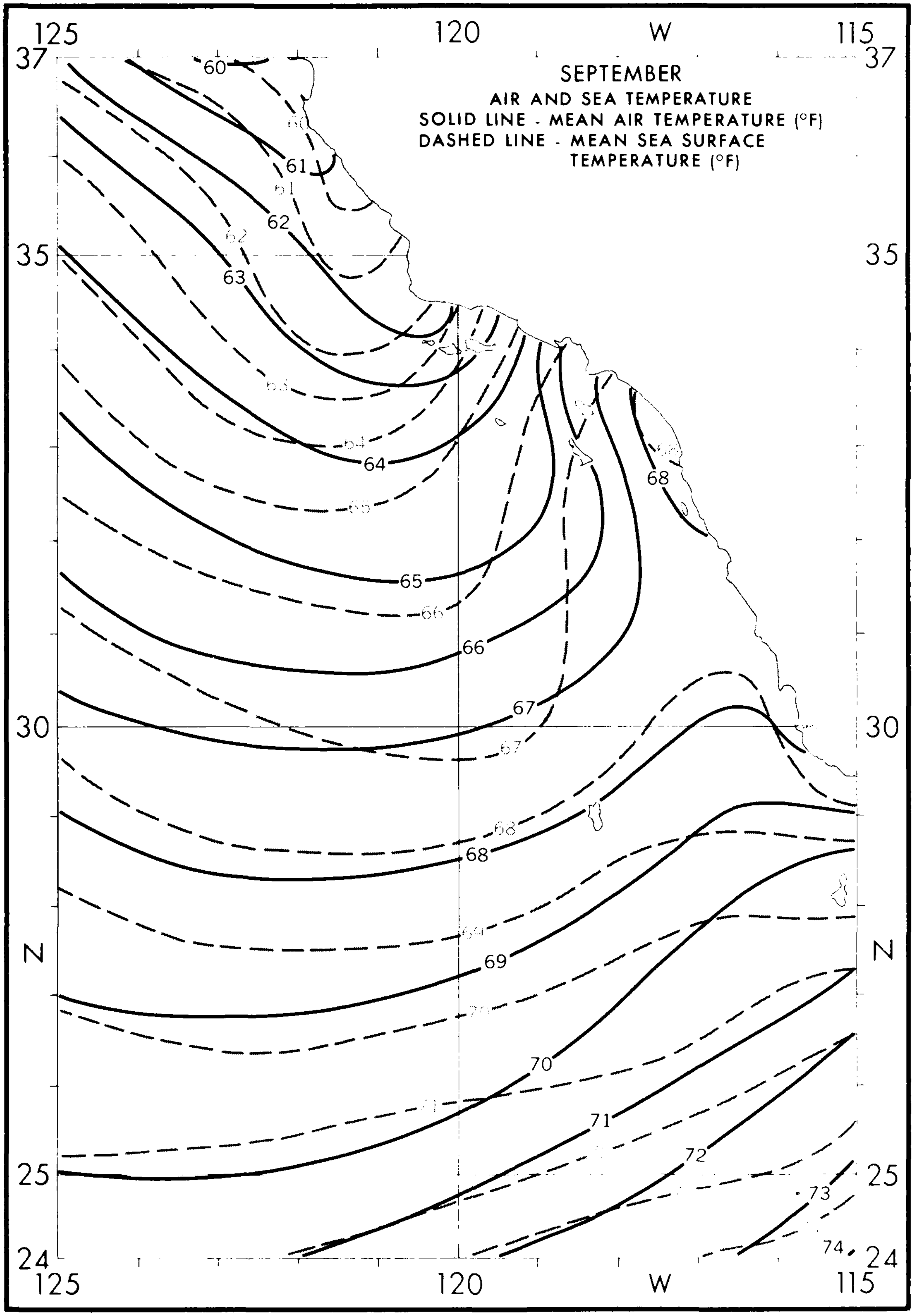

SEPTEMBER
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS
125
120
W
115
37
35
30
25
24
N
60
50
80
70
40
60
80
70
<1%
50
50



SEPTEMBER
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED 11-21 KNOTS
DASHED LINE - WIND SPEED 22-33 KNOTS



SEPTEMBER
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.

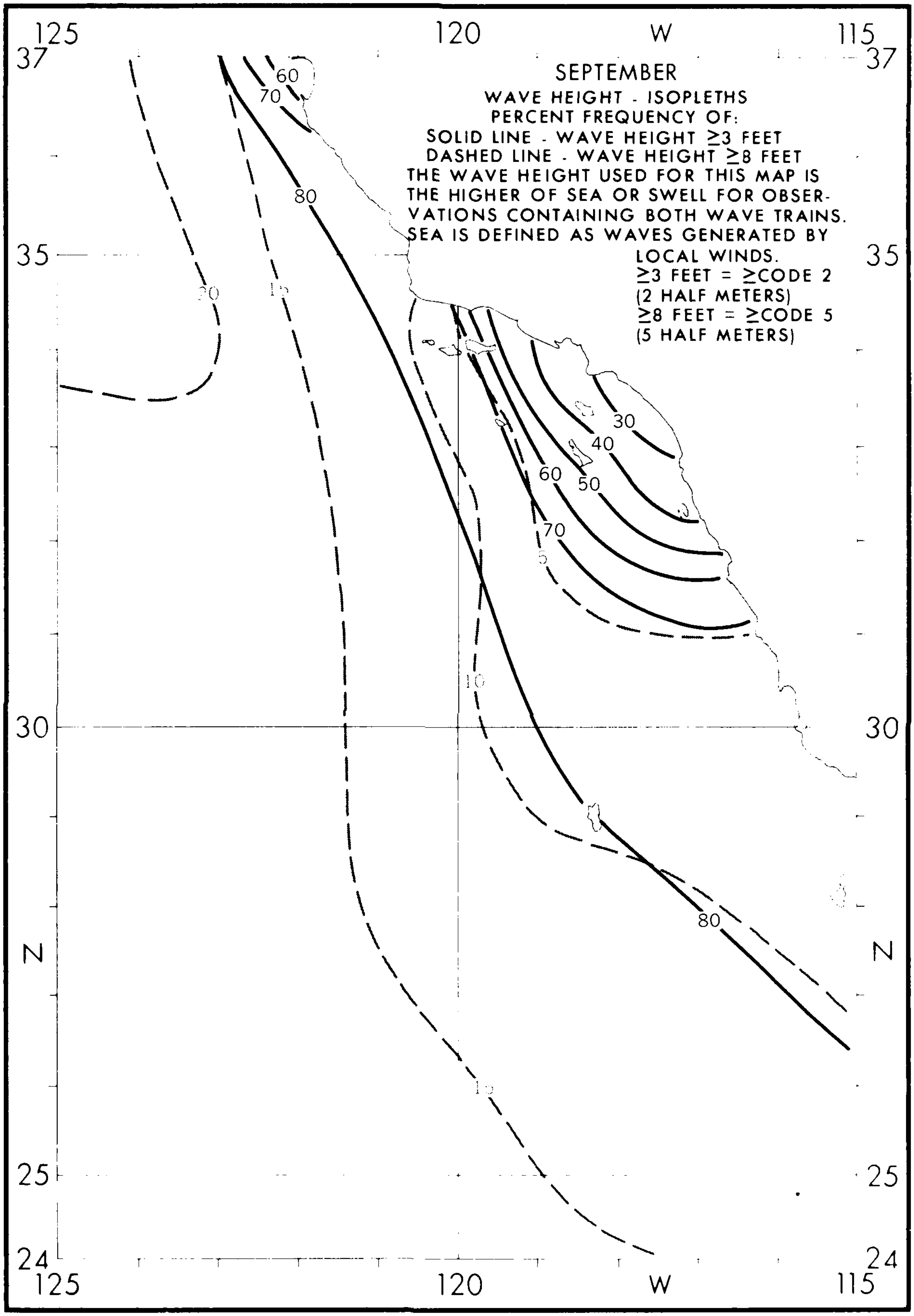


SEPTEMBER

AIR AND SEA TEMPERATURE

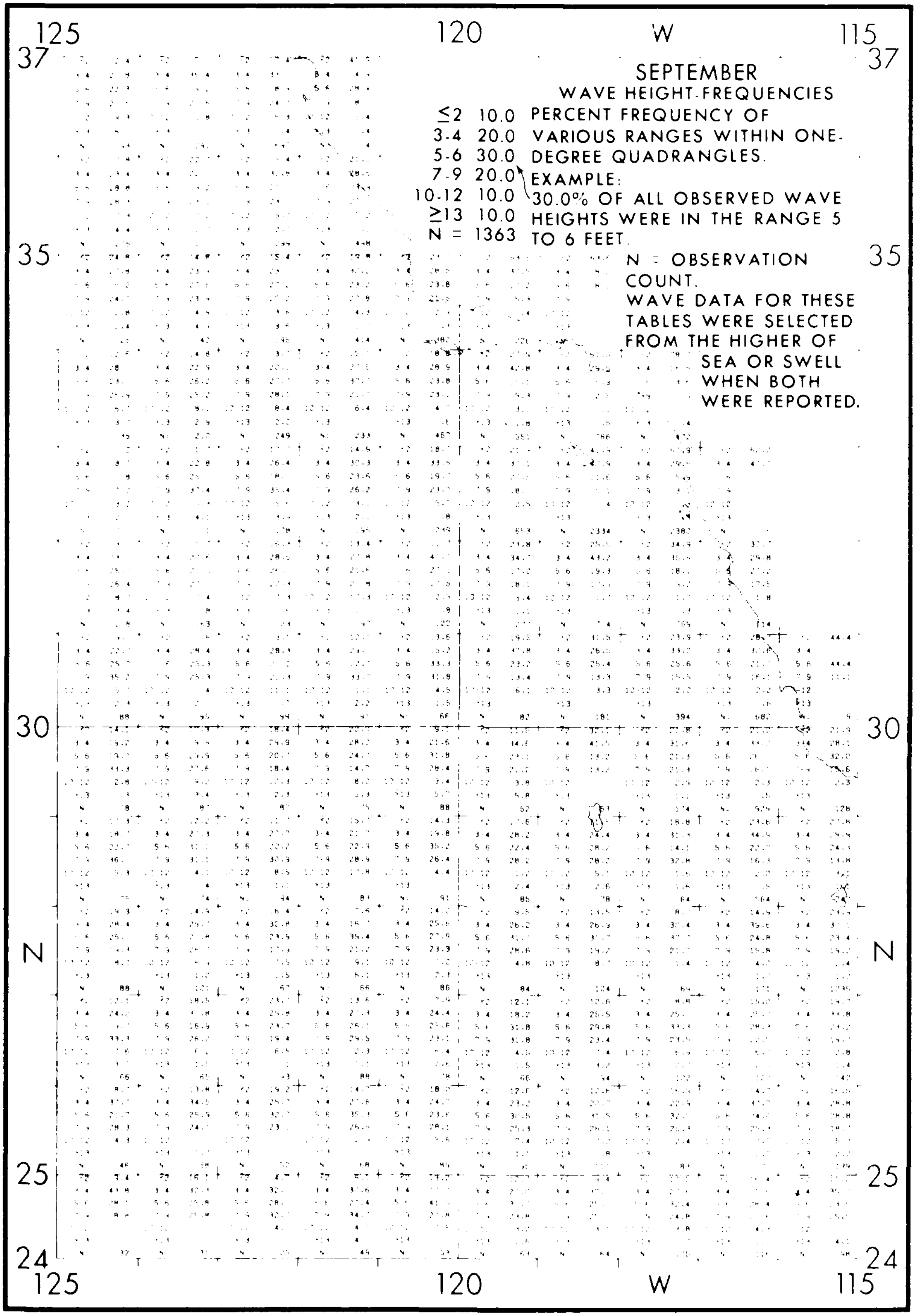
SOLID LINE - MEAN AIR TEMPERATURE (°F)

DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)



SEPTEMBER

WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)



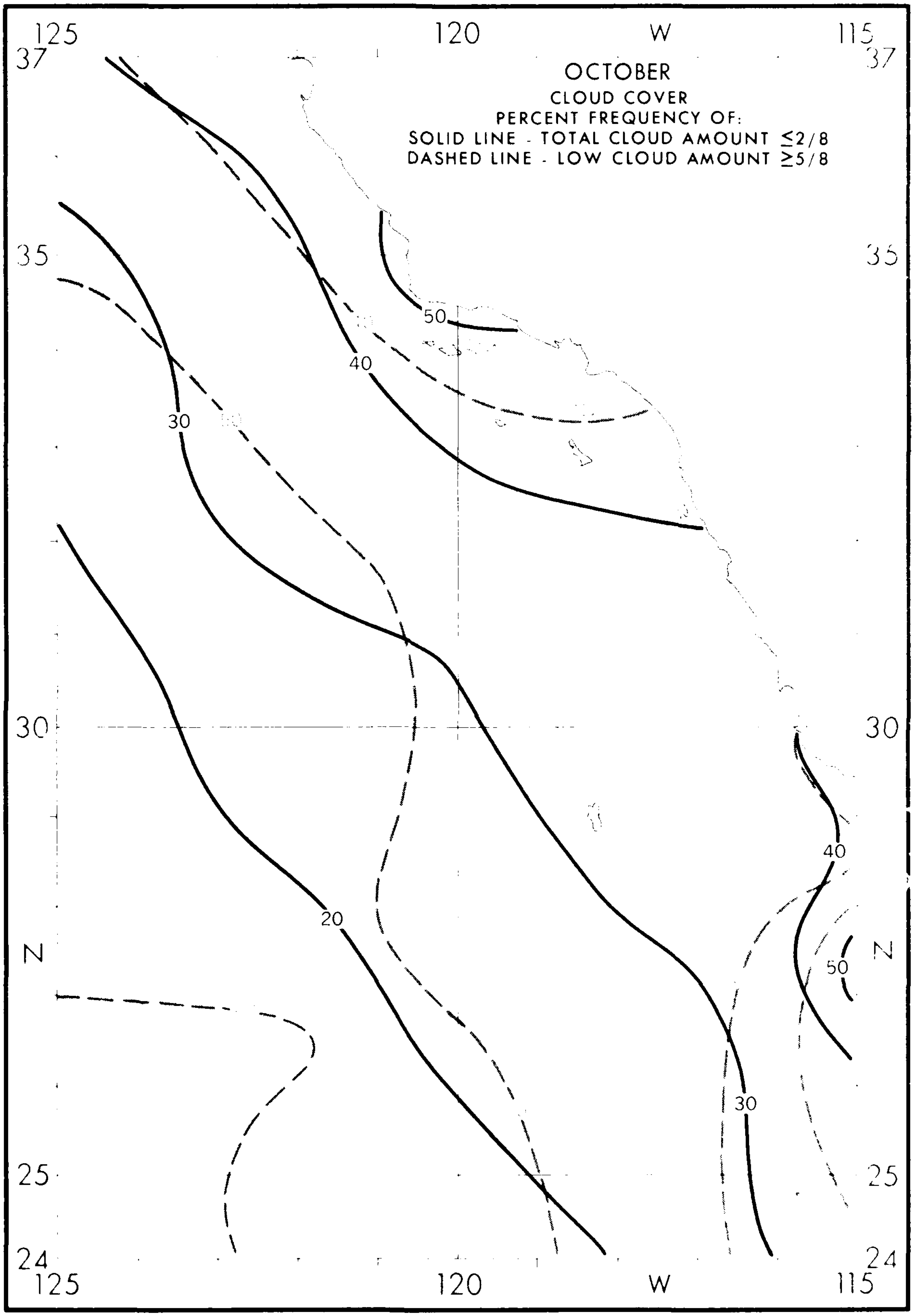
SEPTEMBER

WAVE HEIGHT-FREQUENCIES

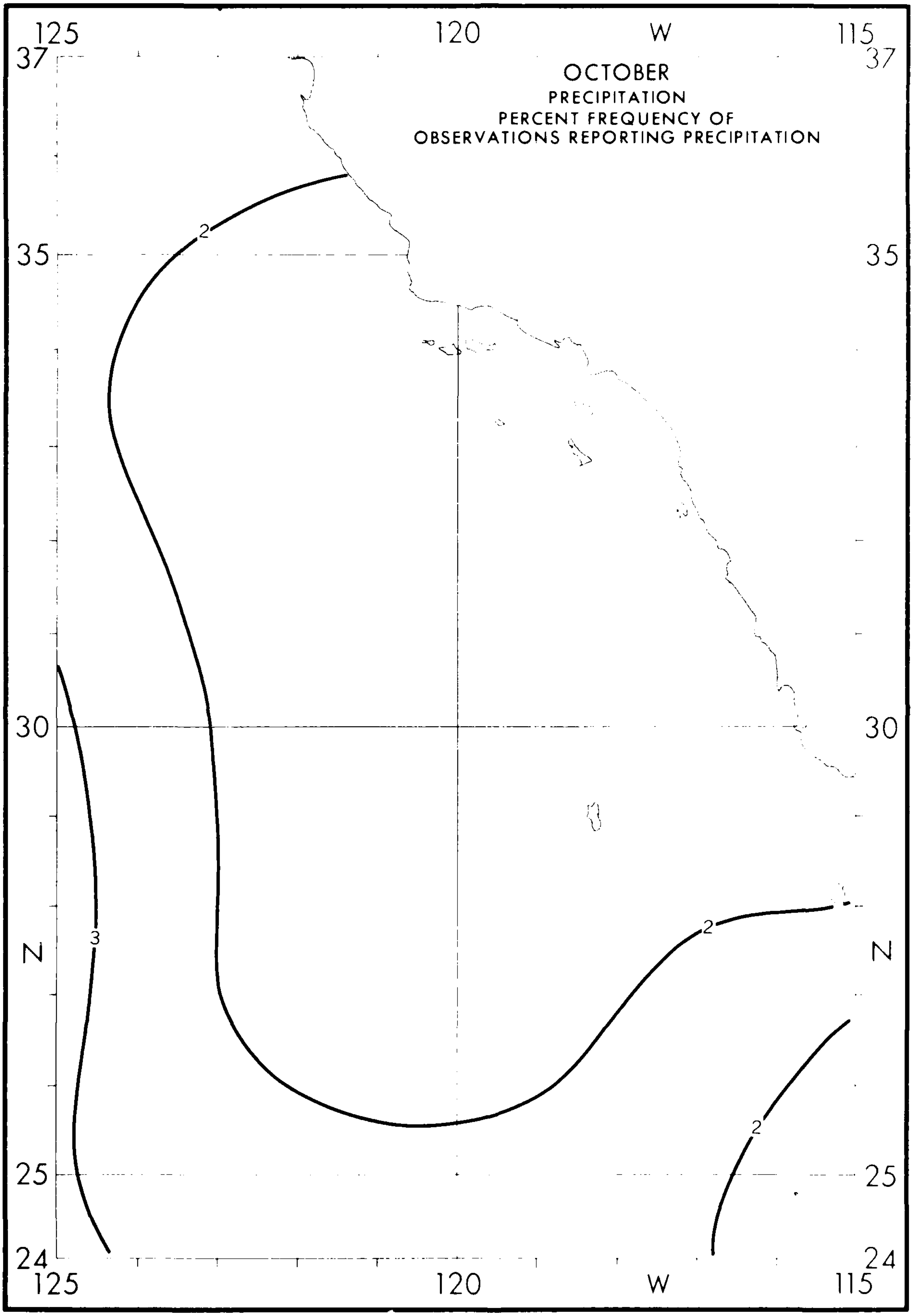
≤2	10.0	PERCENT FREQUENCY OF
3-4	20.0	VARIOUS RANGES WITHIN ONE-
5-6	30.0	DEGREE QUADRANGLES.
7-9	20.0	EXAMPLE:
10-12	10.0	30.0% OF ALL OBSERVED WAVE
≥13	10.0	HEIGHTS WERE IN THE RANGE 5
N =	1363	TO 6 FEET.

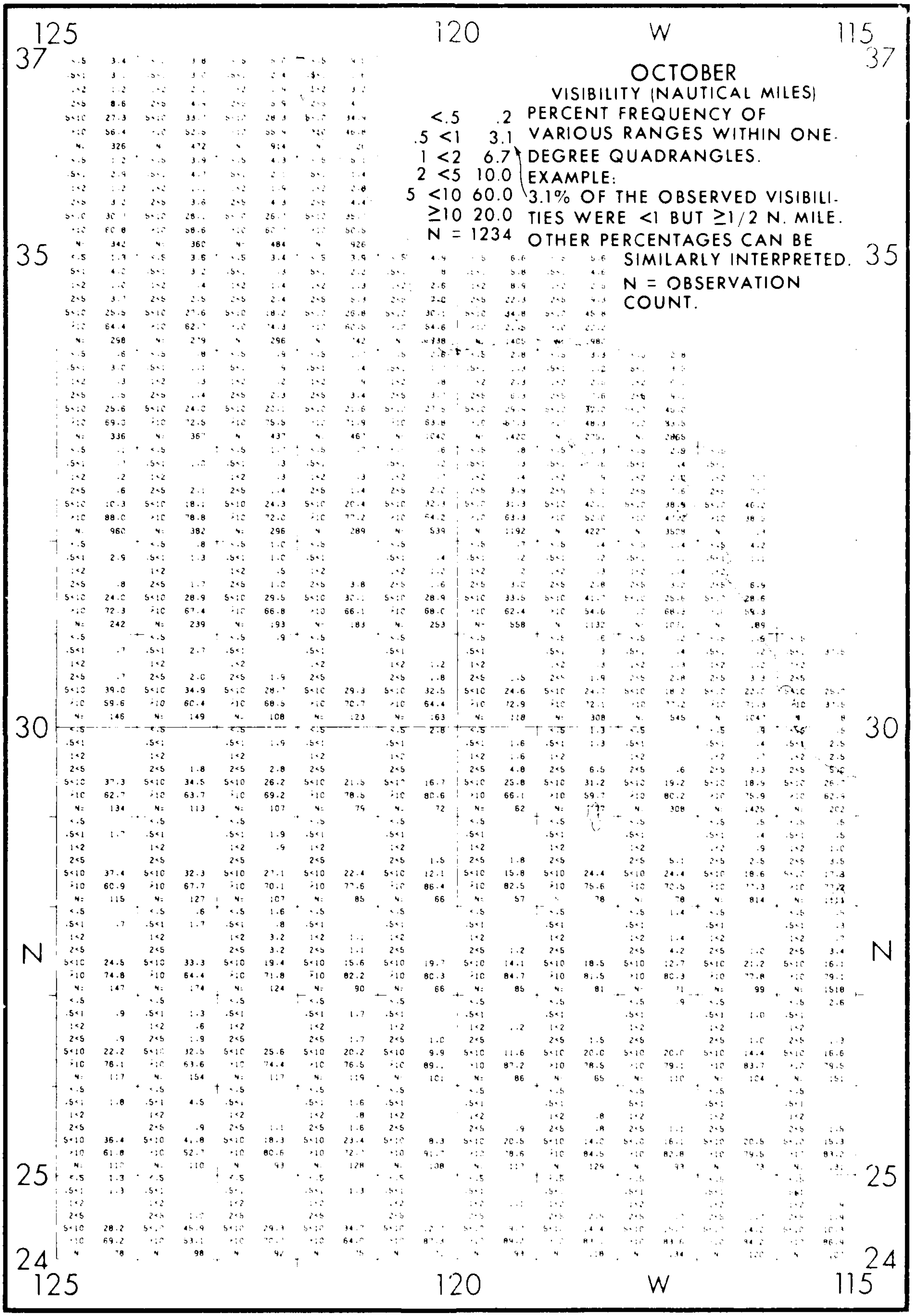
N = OBSERVATION COUNT.

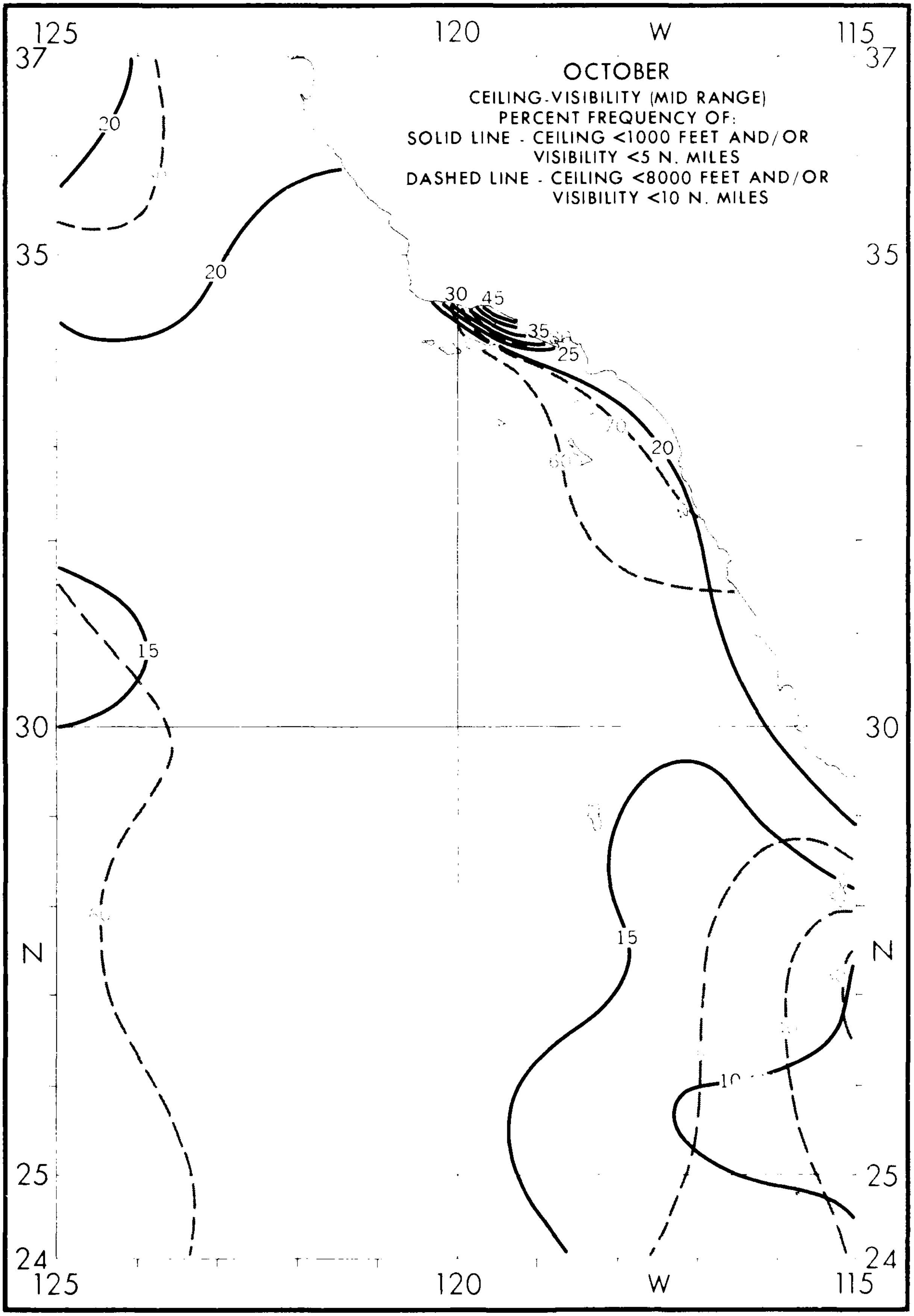
WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.



OCTOBER
CLOUD COVER
PERCENT FREQUENCY OF:
SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8
DASHED LINE - LOW CLOUD AMOUNT ≥5/8

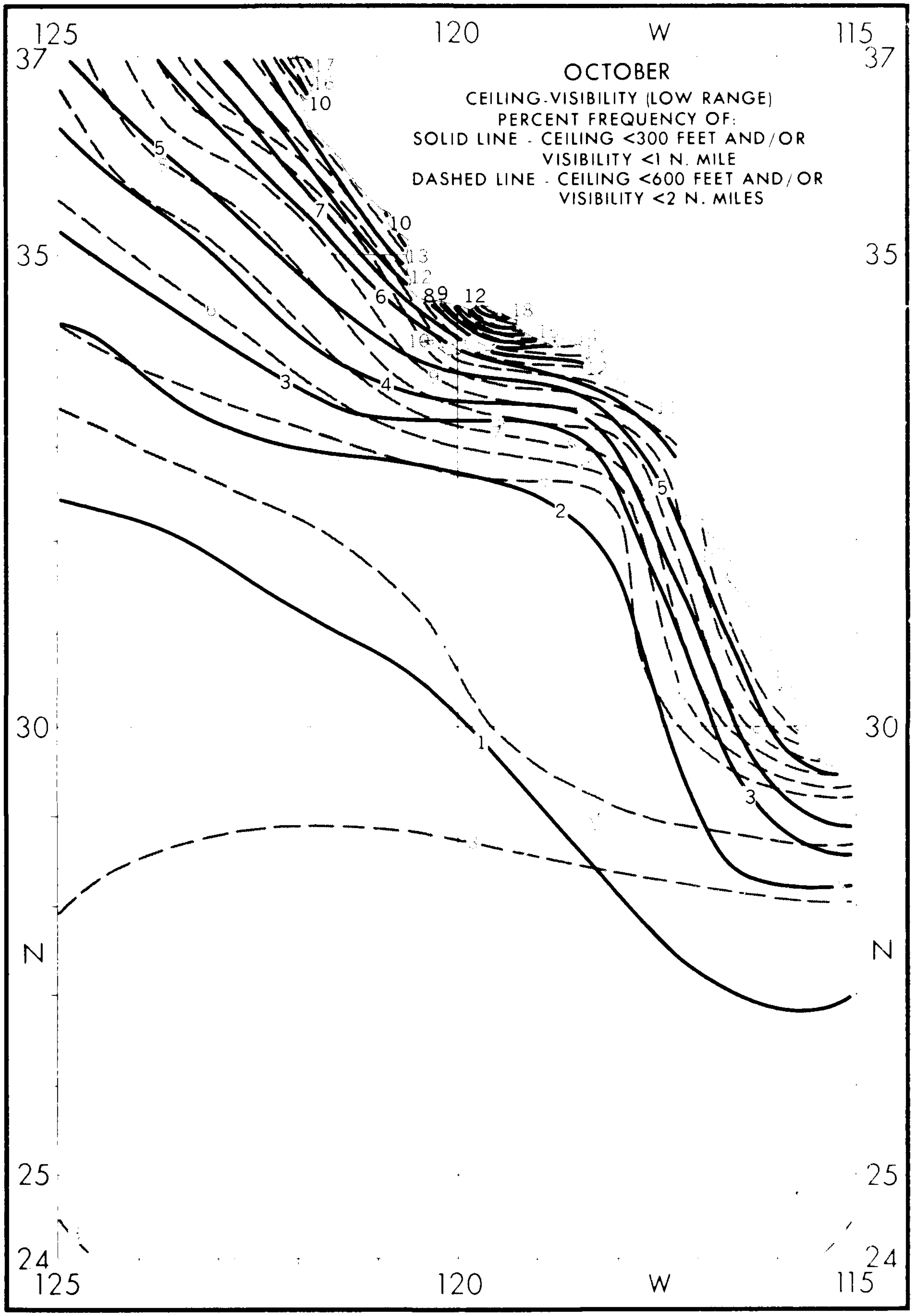
125
120
W
115
37
37
OCTOBER
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
2
35
35
30
30
3
N
N
2
2
25
25
24
24
125
120
W
115


125
120
W
115
37
37
35
35
30
30
N
N
25
25
24
24
125
120
W
115
OCTOBER
VISIBILITY (NAUTICAL MILES)
<.5 .2
.5 <1 3.1
1 <2 6.7
2 <5 10.0
5 <10 60.0
≥10 20.0
N = 1234
PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.
EXAMPLE:
3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE.
OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.
N = OBSERVATION COUNT.



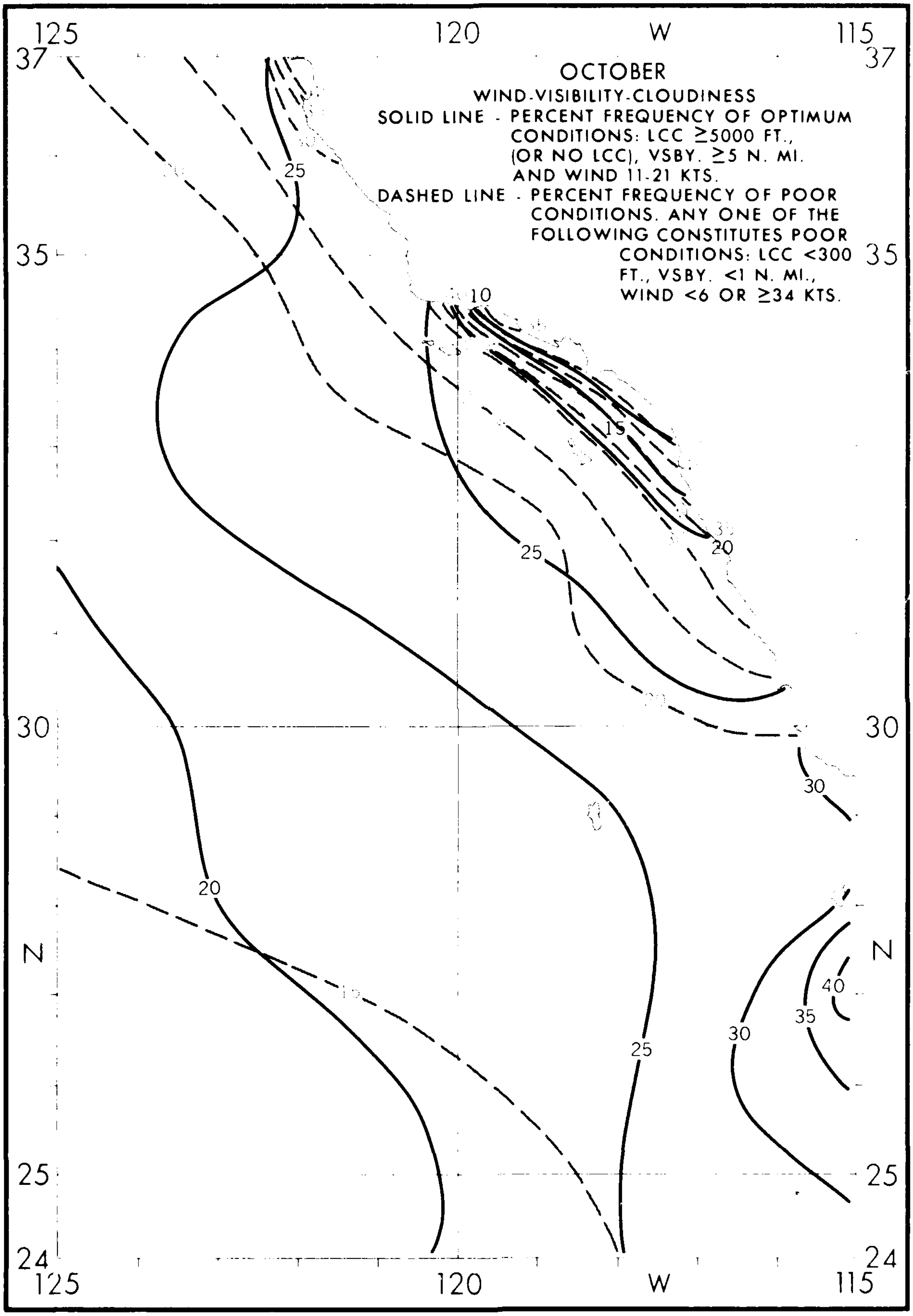
OCTOBER

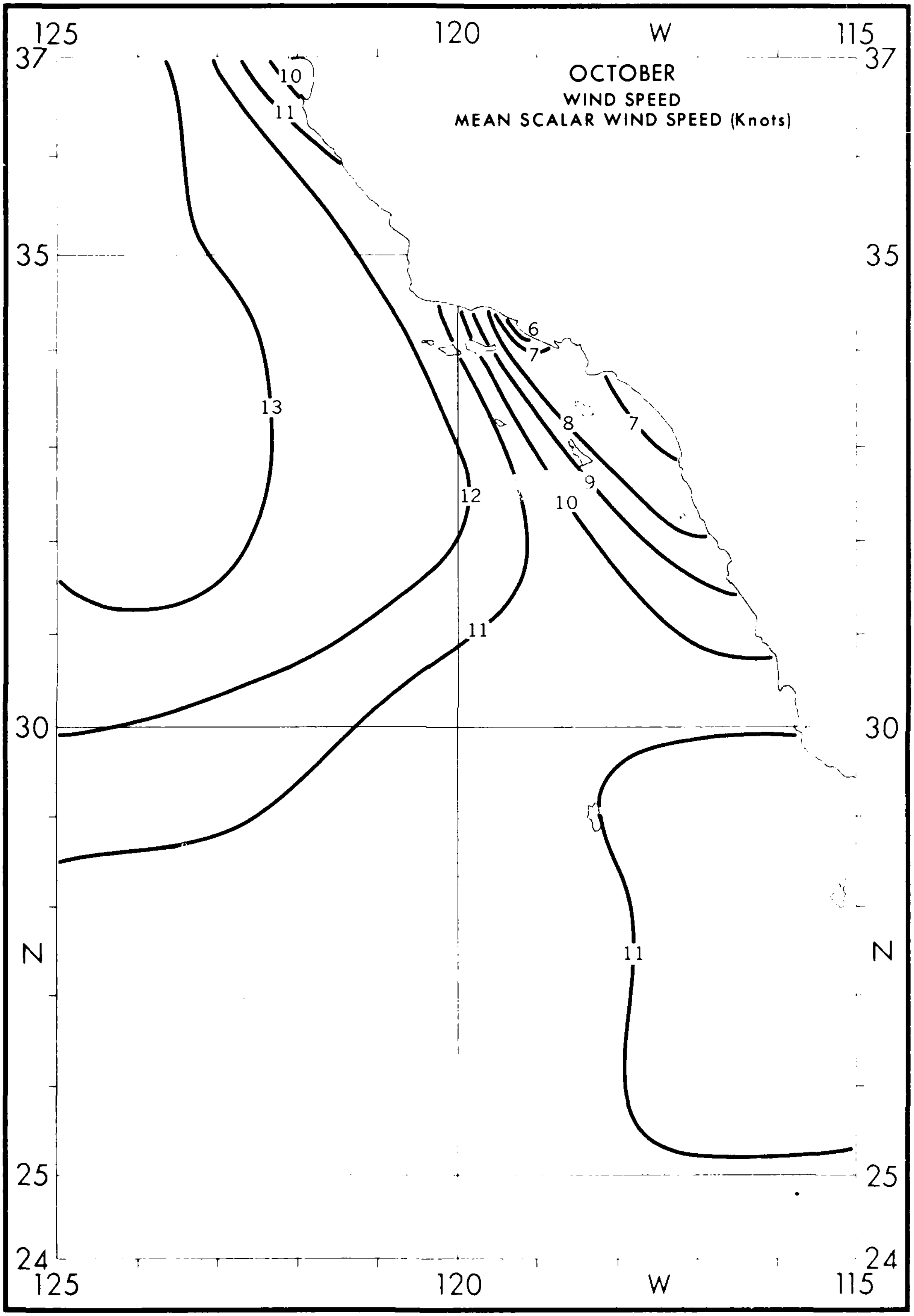
CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR
VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR
VISIBILITY <10 N. MILES



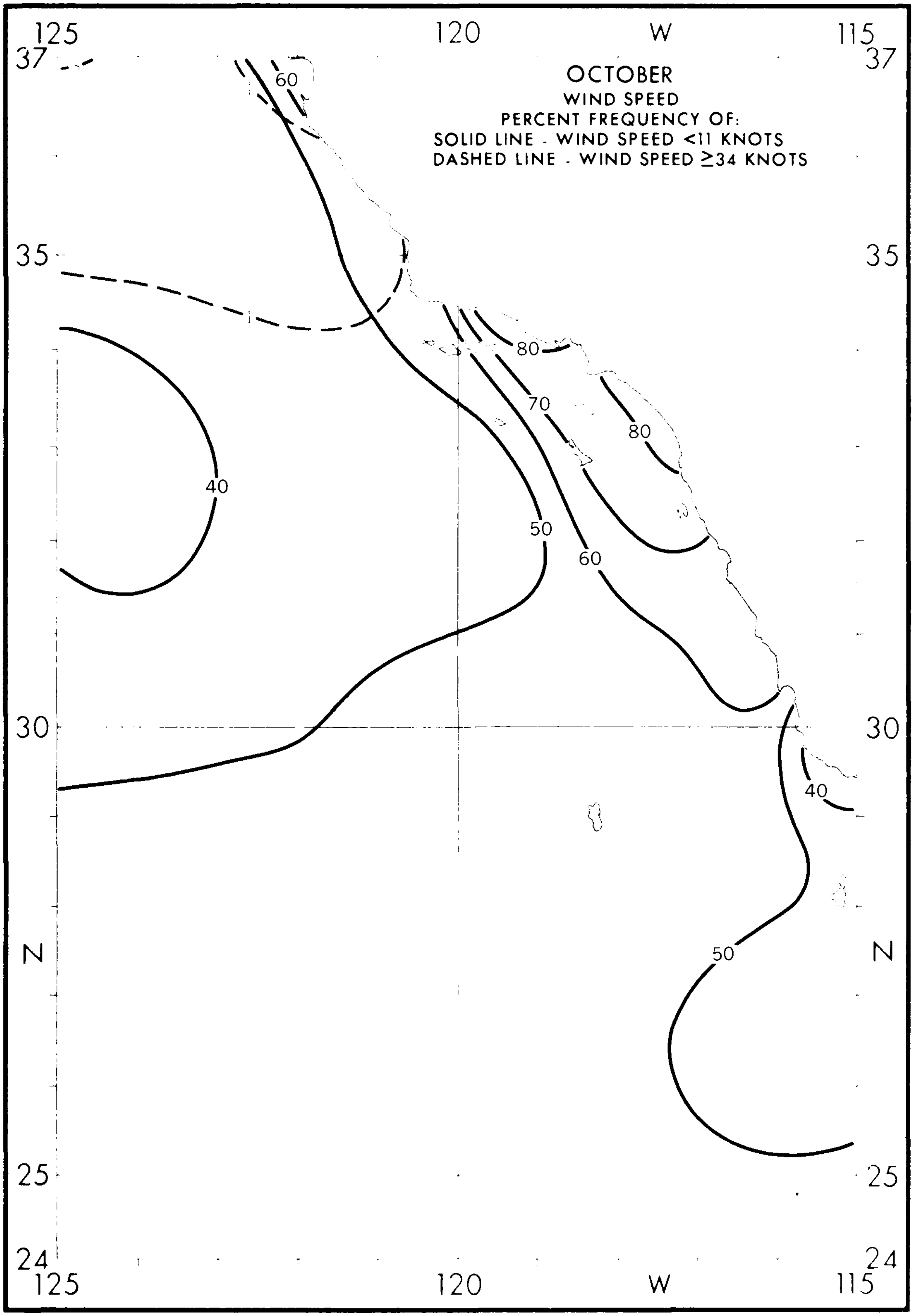
OCTOBER

CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR
VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR
VISIBILITY <2 N. MILES

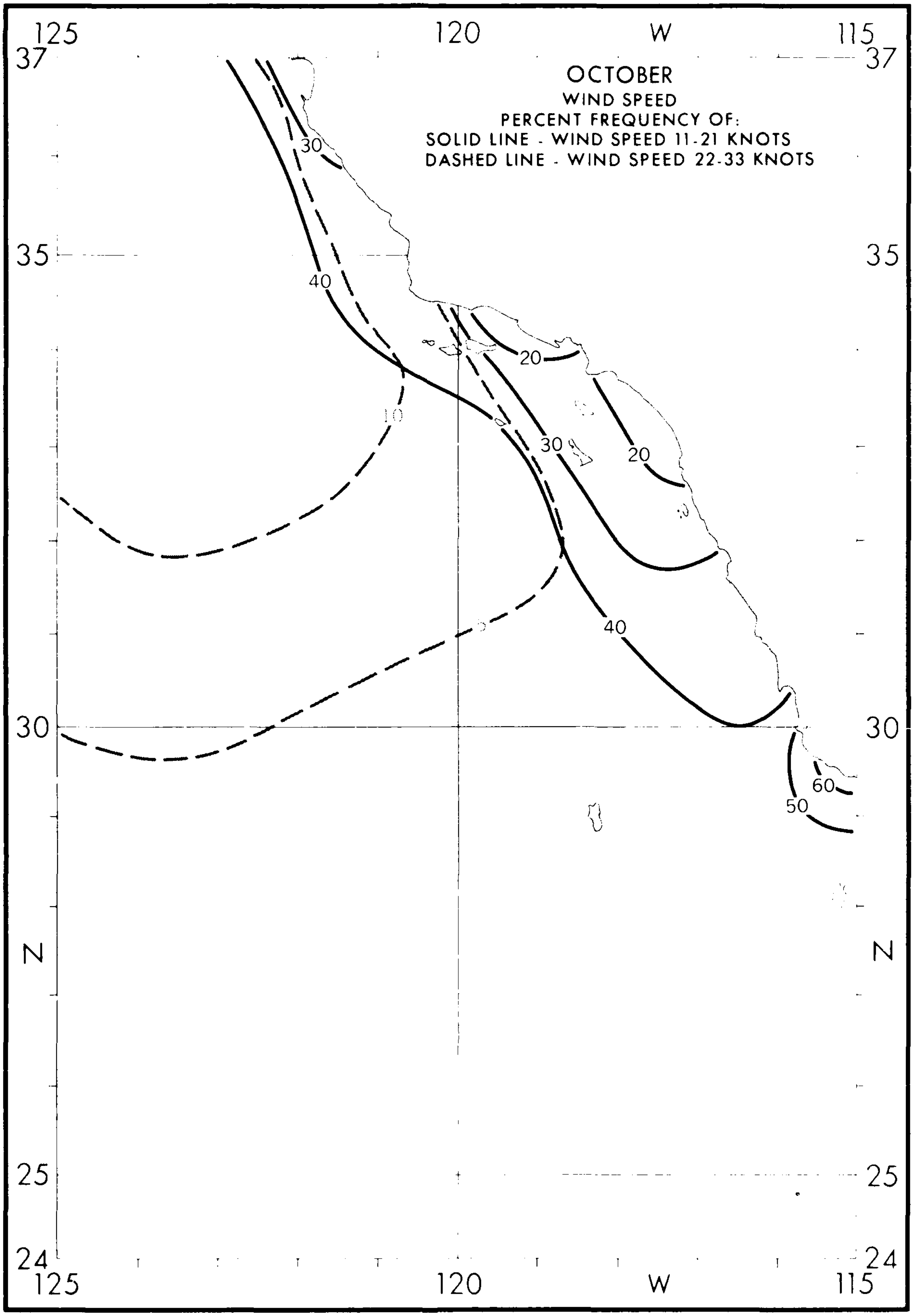

125
120
W
115
37
37
OCTOBER
WIND-VISIBILITY-CLOUDINESS
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.
DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.
25
10
35
35
15
20
25
30
30
30
20
N
N
40
35
30
25
25
25
24
24
125
120
W
115



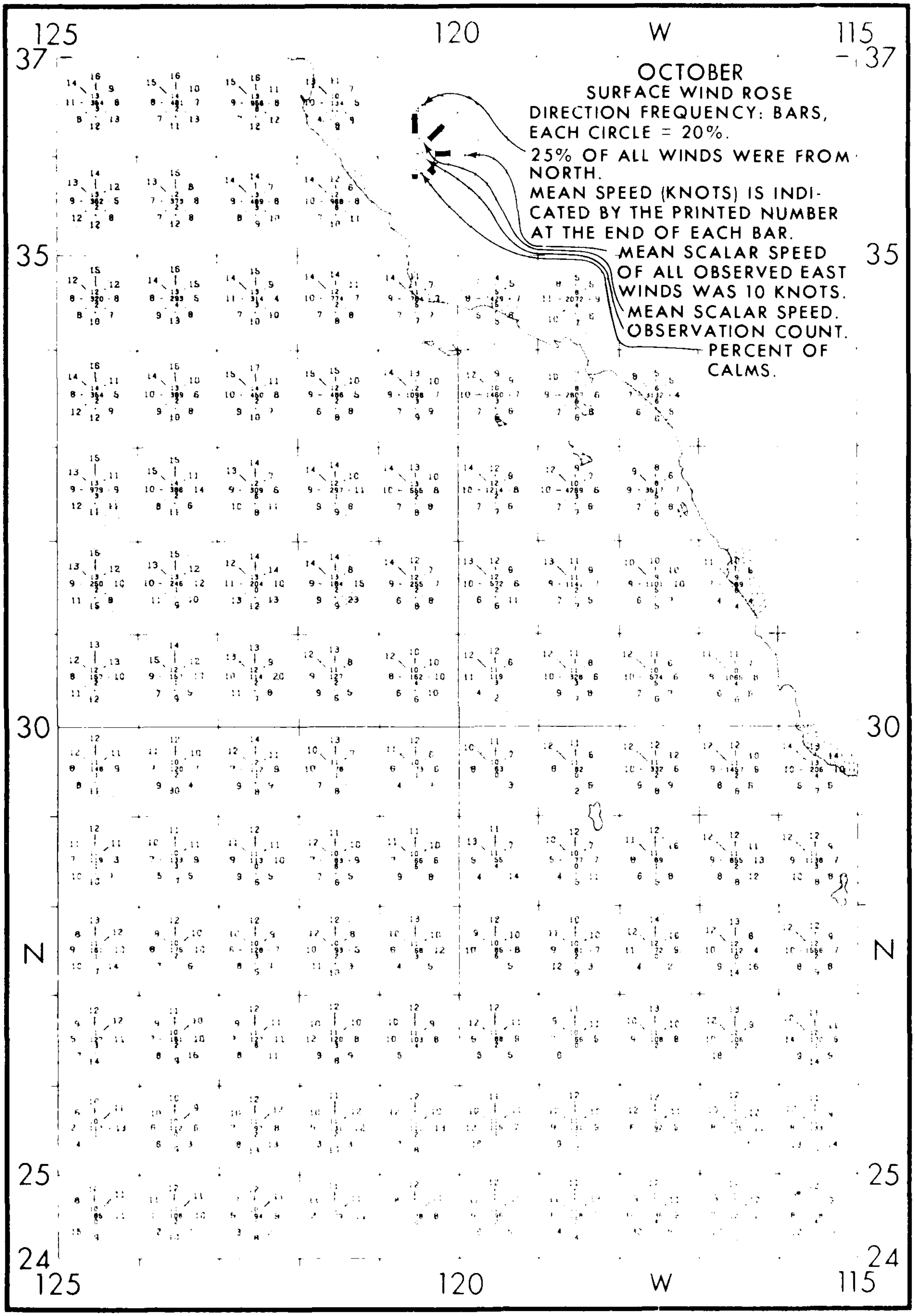
OCTOBER
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)



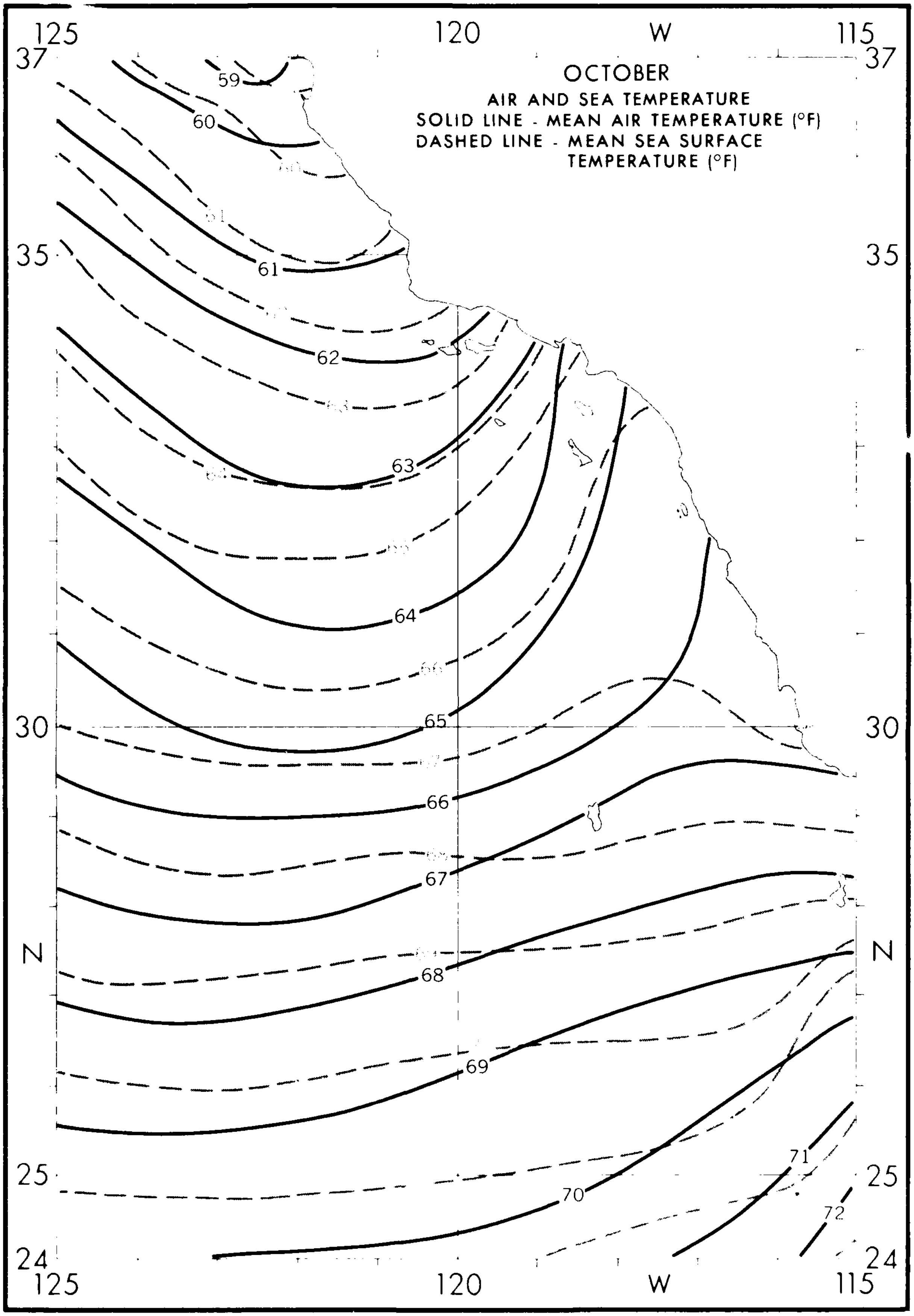
OCTOBER
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS



OCTOBER
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED 11-21 KNOTS
DASHED LINE - WIND SPEED 22-33 KNOTS

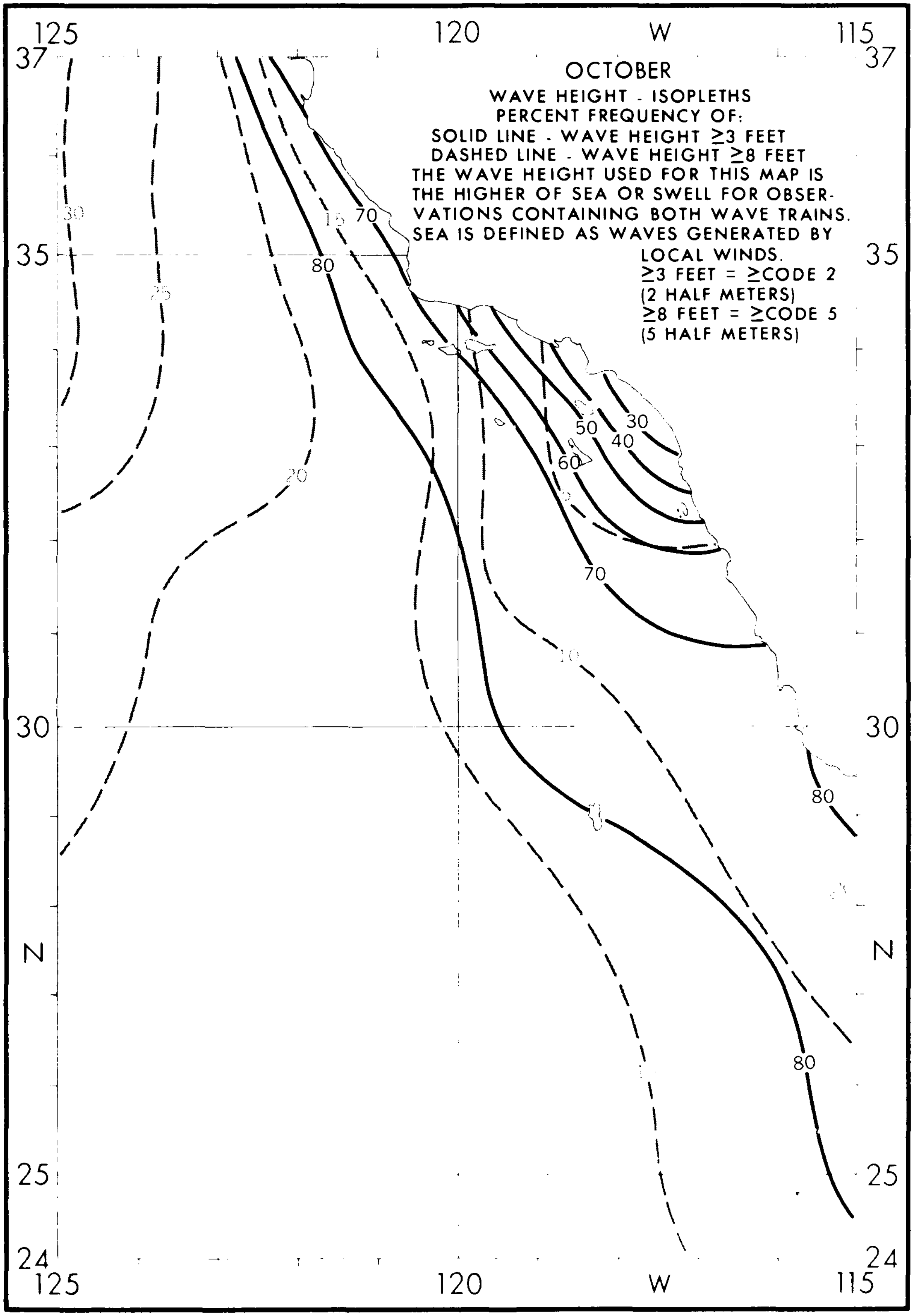


OCTOBER
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.



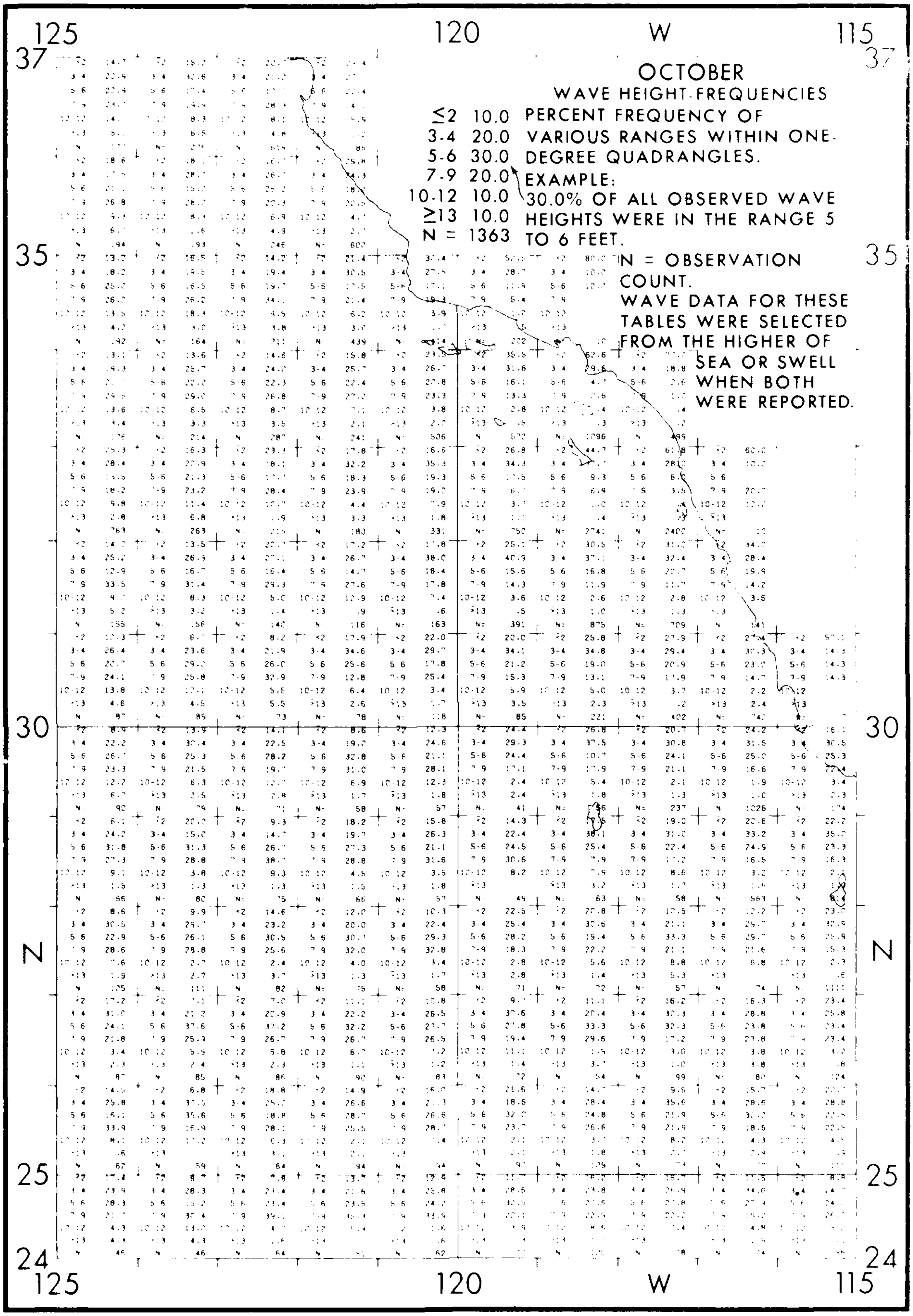
OCTOBER

AIR AND SEA TEMPERATURE
SOLID LINE - MEAN AIR TEMPERATURE (°F)
DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)



OCTOBER

WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2 (2 HALF METERS)
≥8 FEET = ≥CODE 5 (5 HALF METERS)



OCTOBER

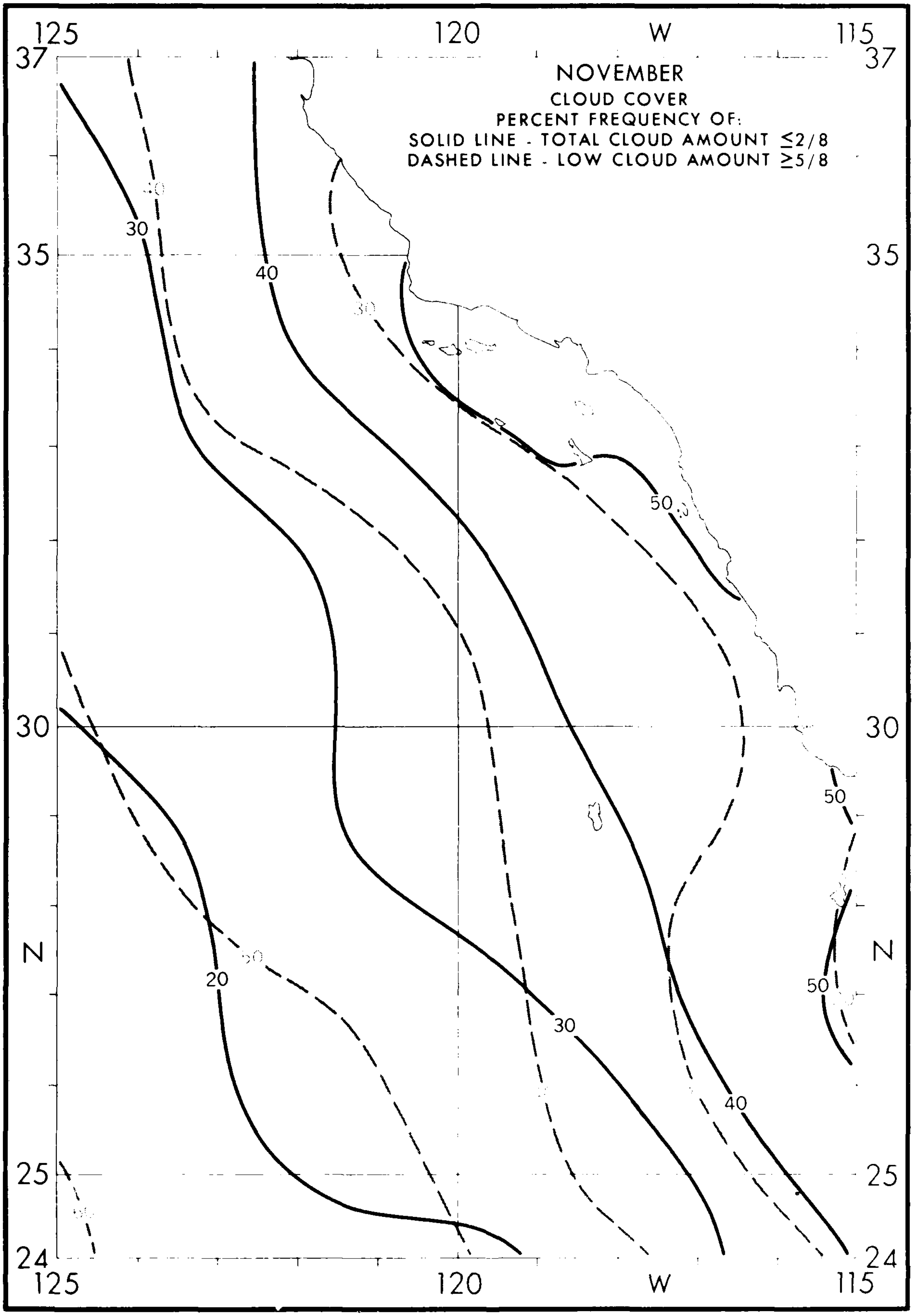
WAVE HEIGHT-FREQUENCIES

PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

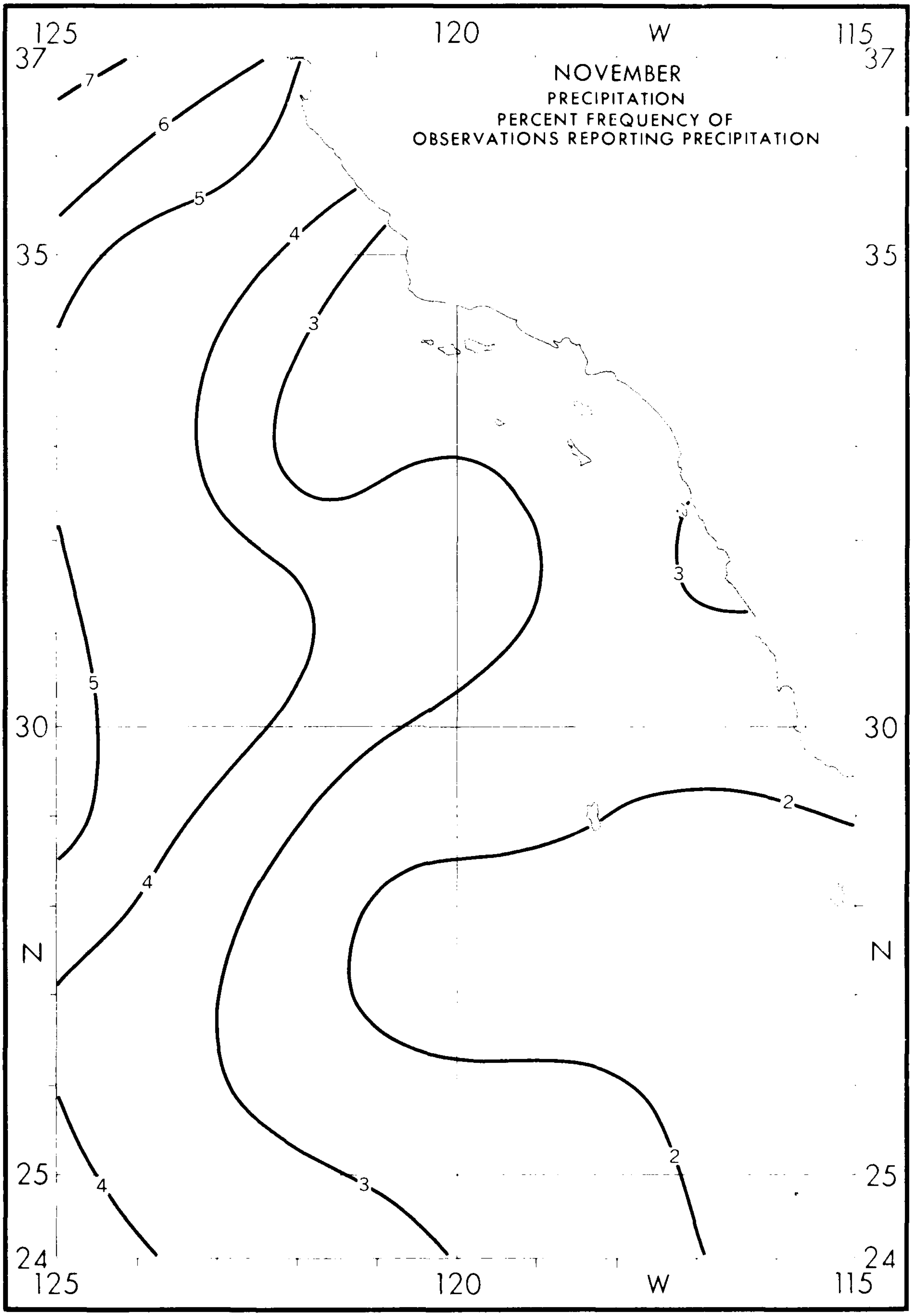
EXAMPLE: 30.0% OF ALL OBSERVED WAVE HEIGHTS WERE IN THE RANGE 5 TO 6 FEET.

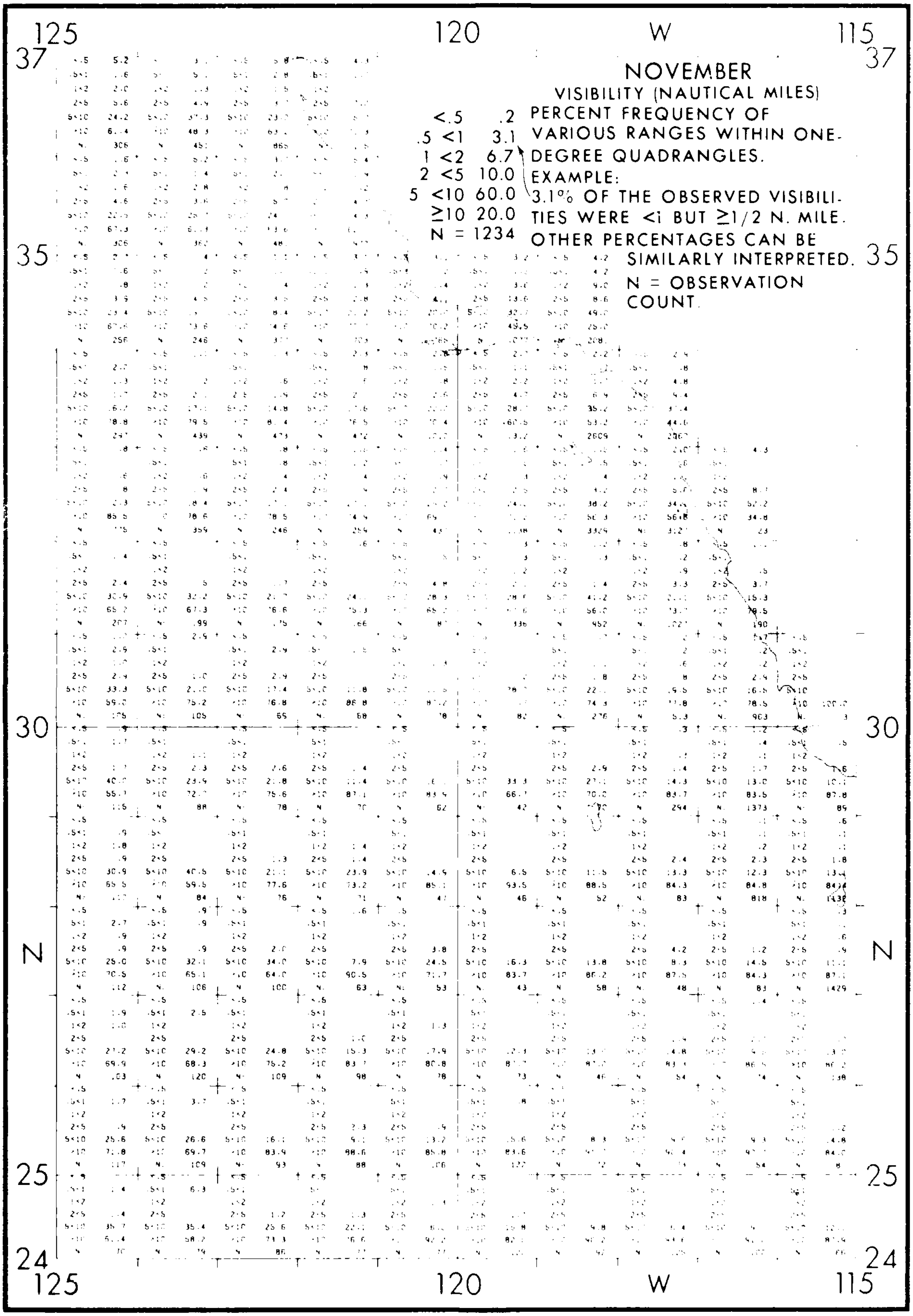
N = OBSERVATION COUNT.

WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.



NOVEMBER
CLOUD COVER
PERCENT FREQUENCY OF:
SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8
DASHED LINE - LOW CLOUD AMOUNT ≥5/8


NOVEMBER
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
125
120
W
115
37
35
30
N
25
24
7
6
5
4
3
2



NOVEMBER

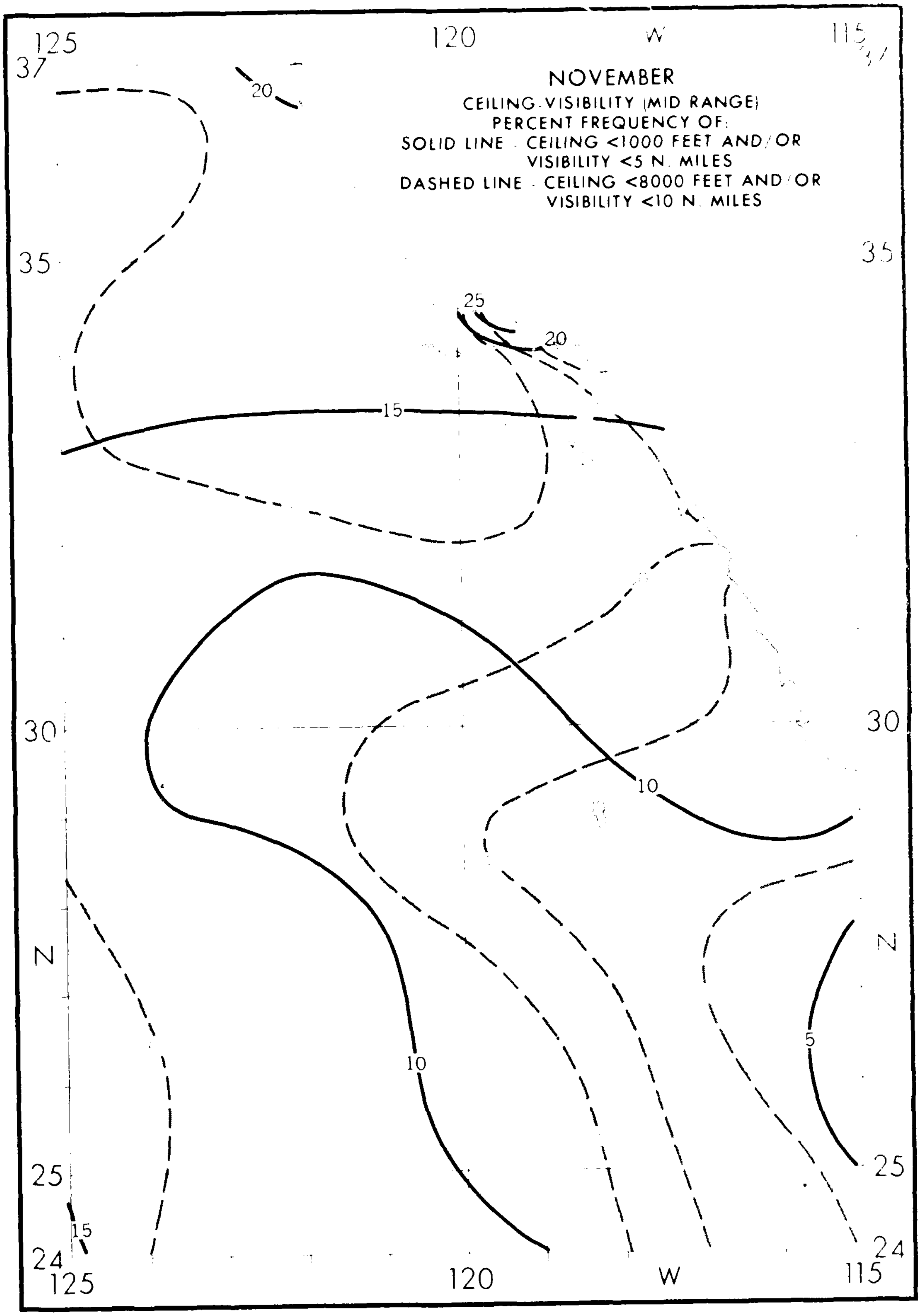
VISIBILITY (NAUTICAL MILES)

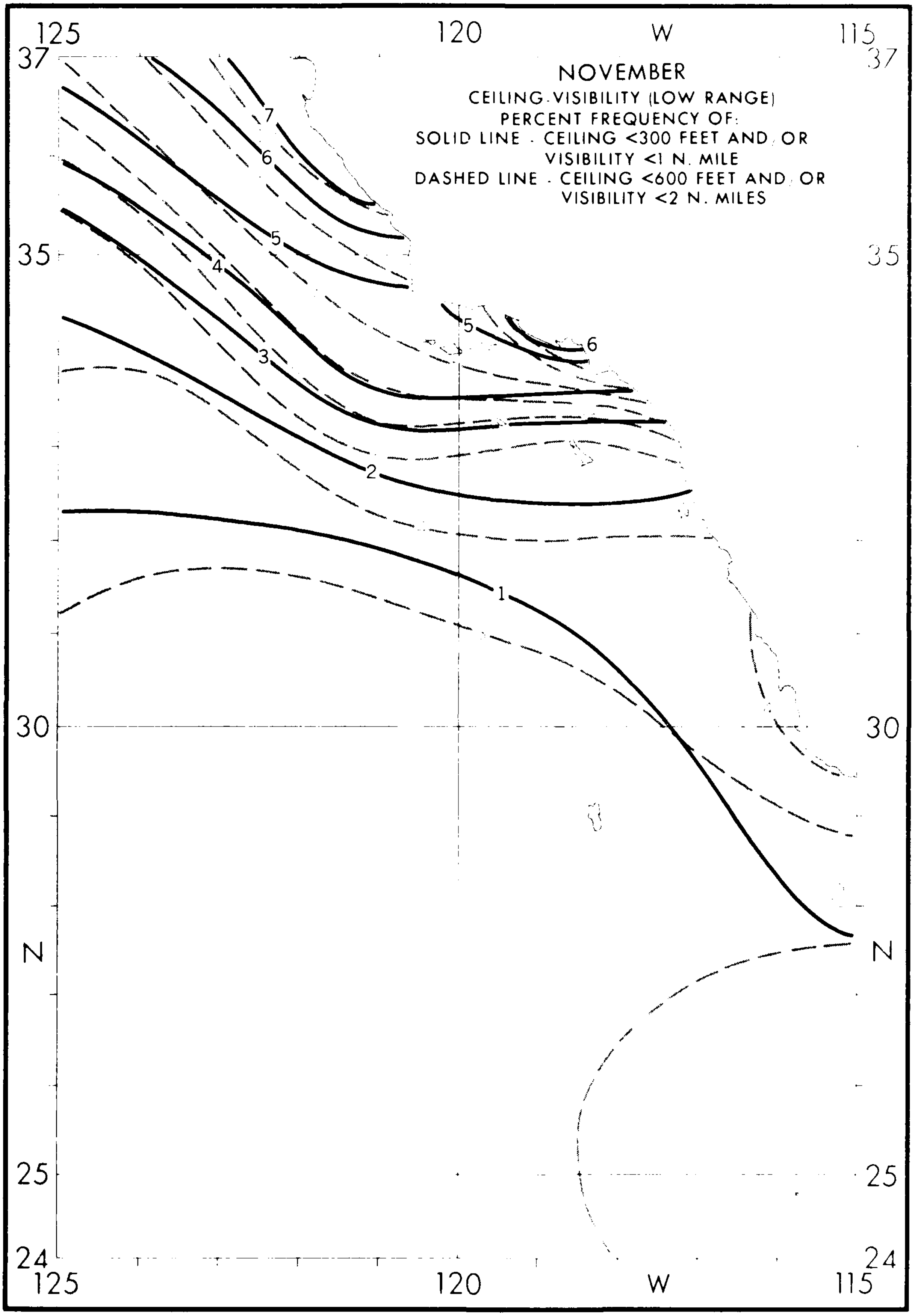
<.5	.2
.5 <1	3.1
1 <2	6.7
2 <5	10.0
5 <10	60.0
≥10	20.0
N =	1234

PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

EXAMPLE: 3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.

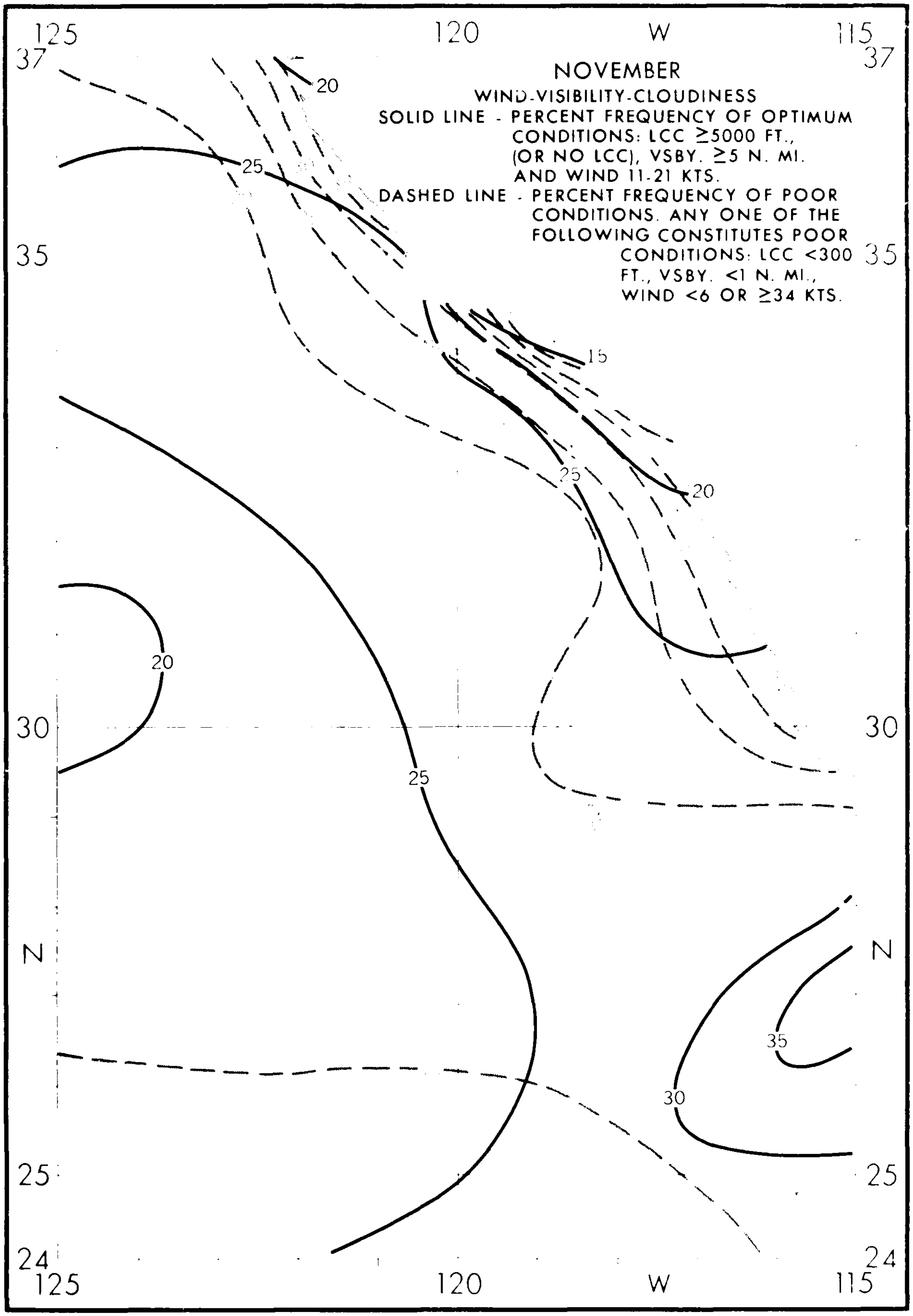
N = OBSERVATION COUNT.


NOVEMBER
CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR VISIBILITY <10 N. MILES
125
120
W
115
37
35
30
N
25
24
20
25
20
15
10
10
5
15



NOVEMBER

CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES

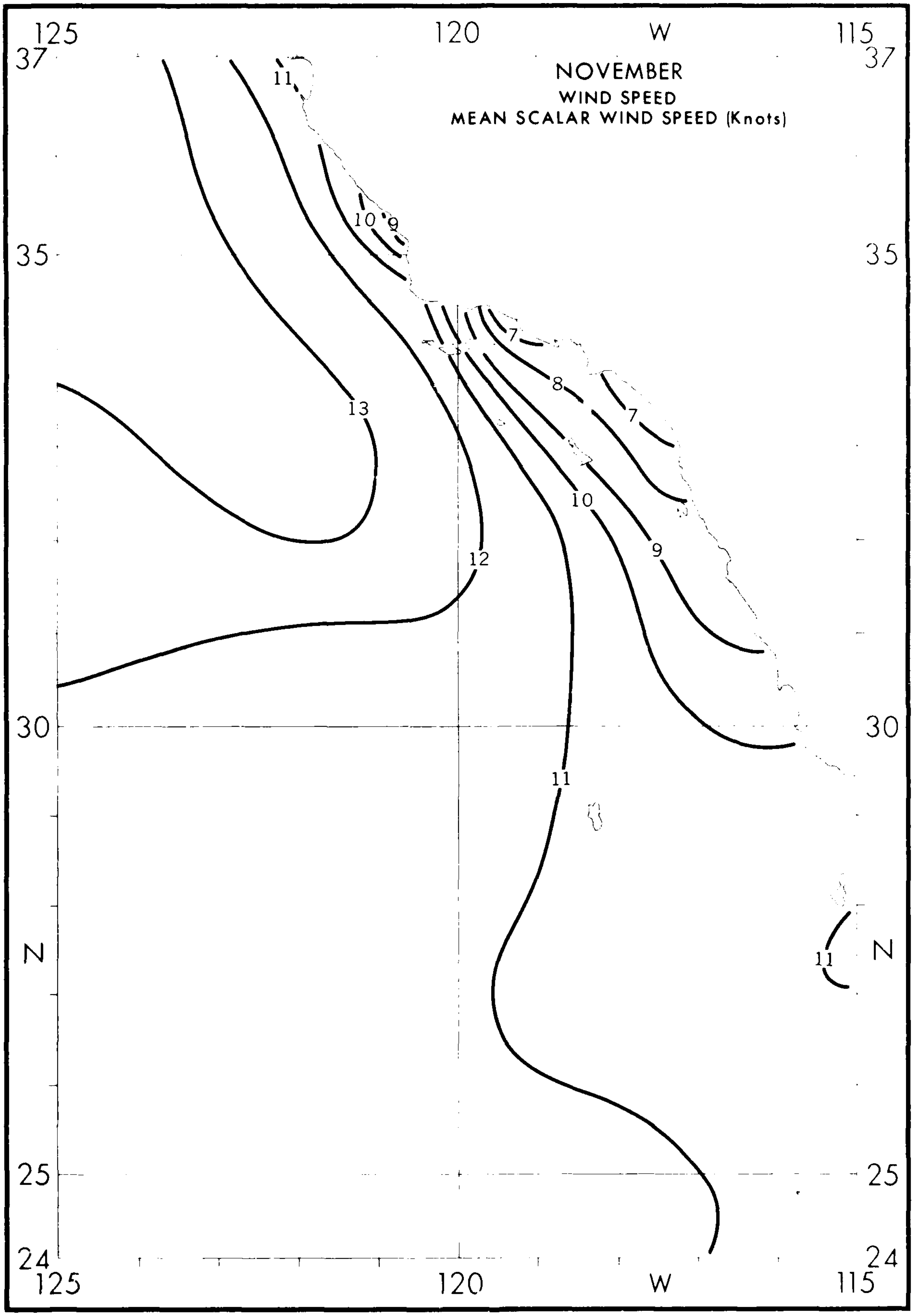


NOVEMBER

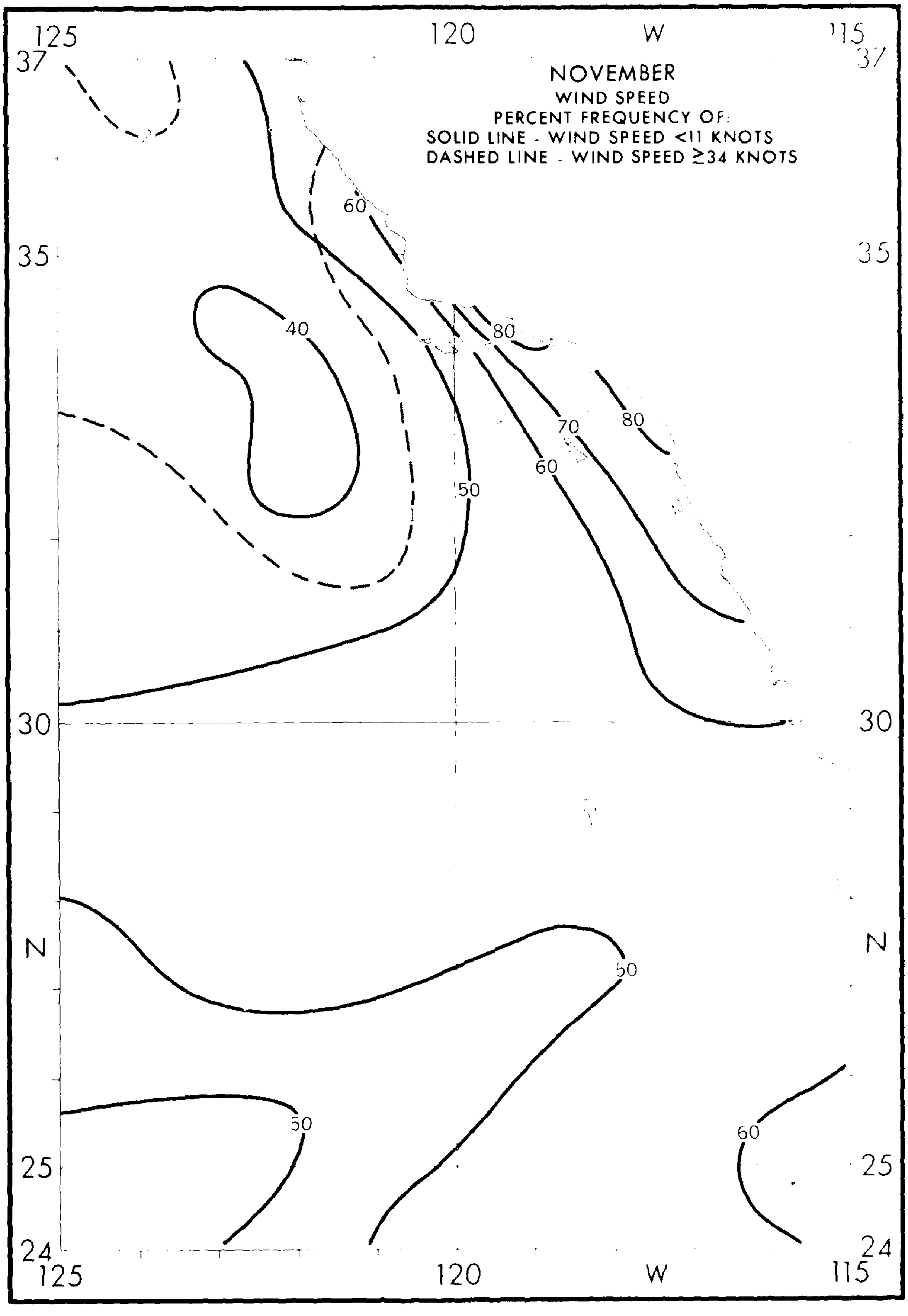
WIND-VISIBILITY-CLOUDINESS

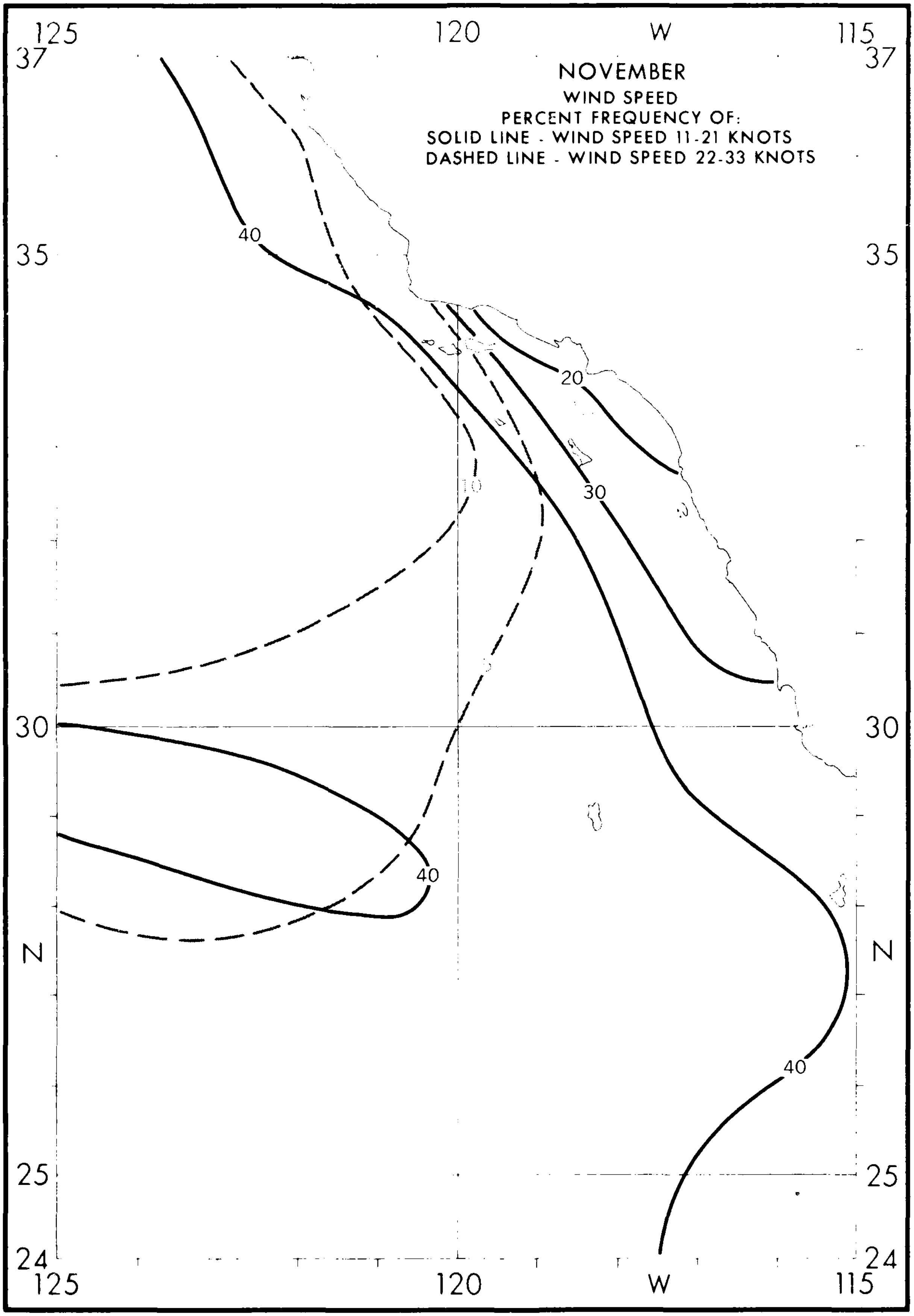
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.

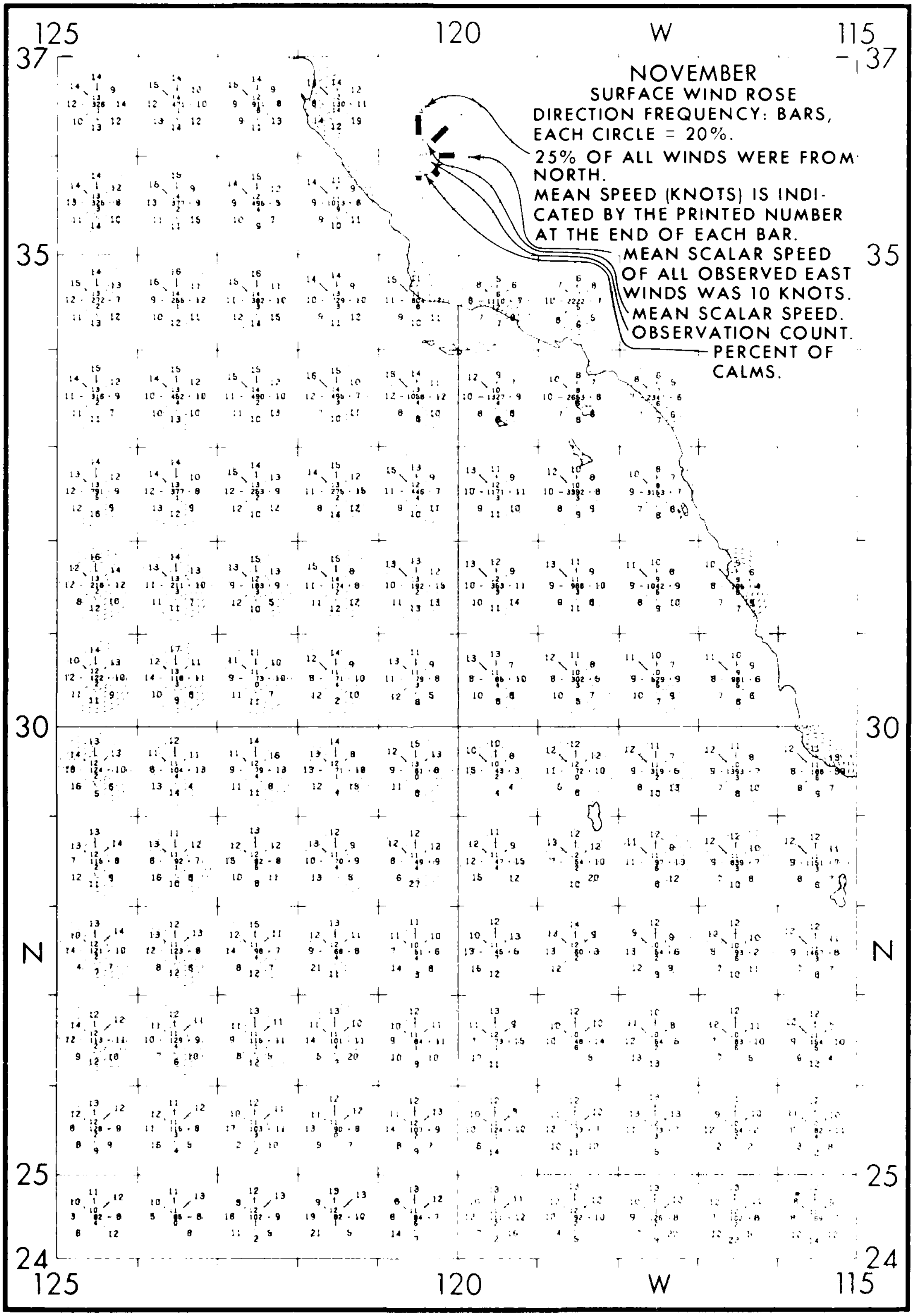
DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.



NOVEMBER
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)


NOVEMBER
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS
125
120
W
115
37
35
30
N
25
24
60
40
80
70
80
60
50
50
50
60


NOVEMBER
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED 11-21 KNOTS
DASHED LINE - WIND SPEED 22-33 KNOTS
125
120
W
115
37
35
30
N
25
24
40
20
30
10
40
40



NOVEMBER

SURFACE WIND ROSE

DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.

25% OF ALL WINDS WERE FROM NORTH.

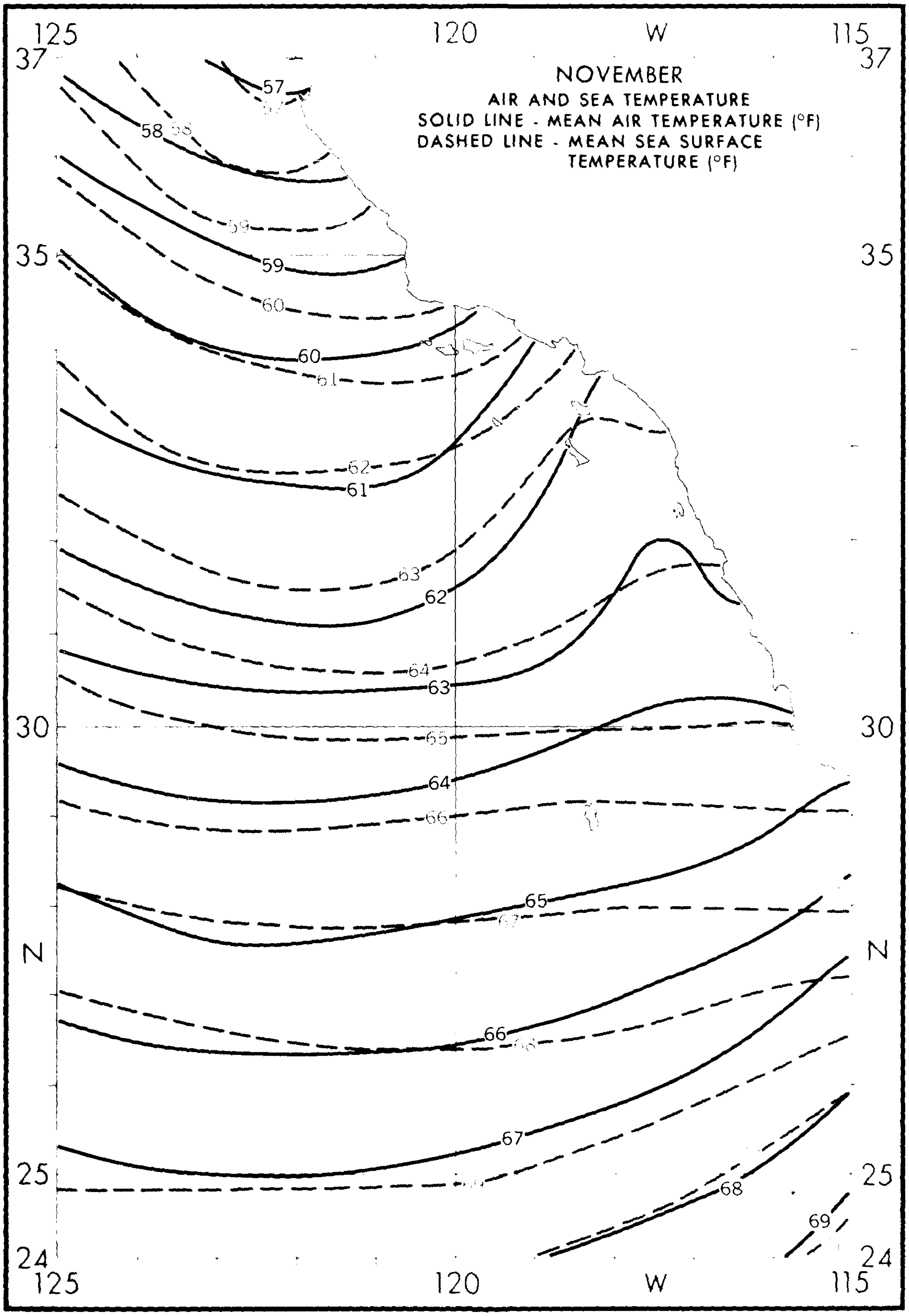
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.

MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.

MEAN SCALAR SPEED.

OBSERVATION COUNT.

PERCENT OF CALMS.

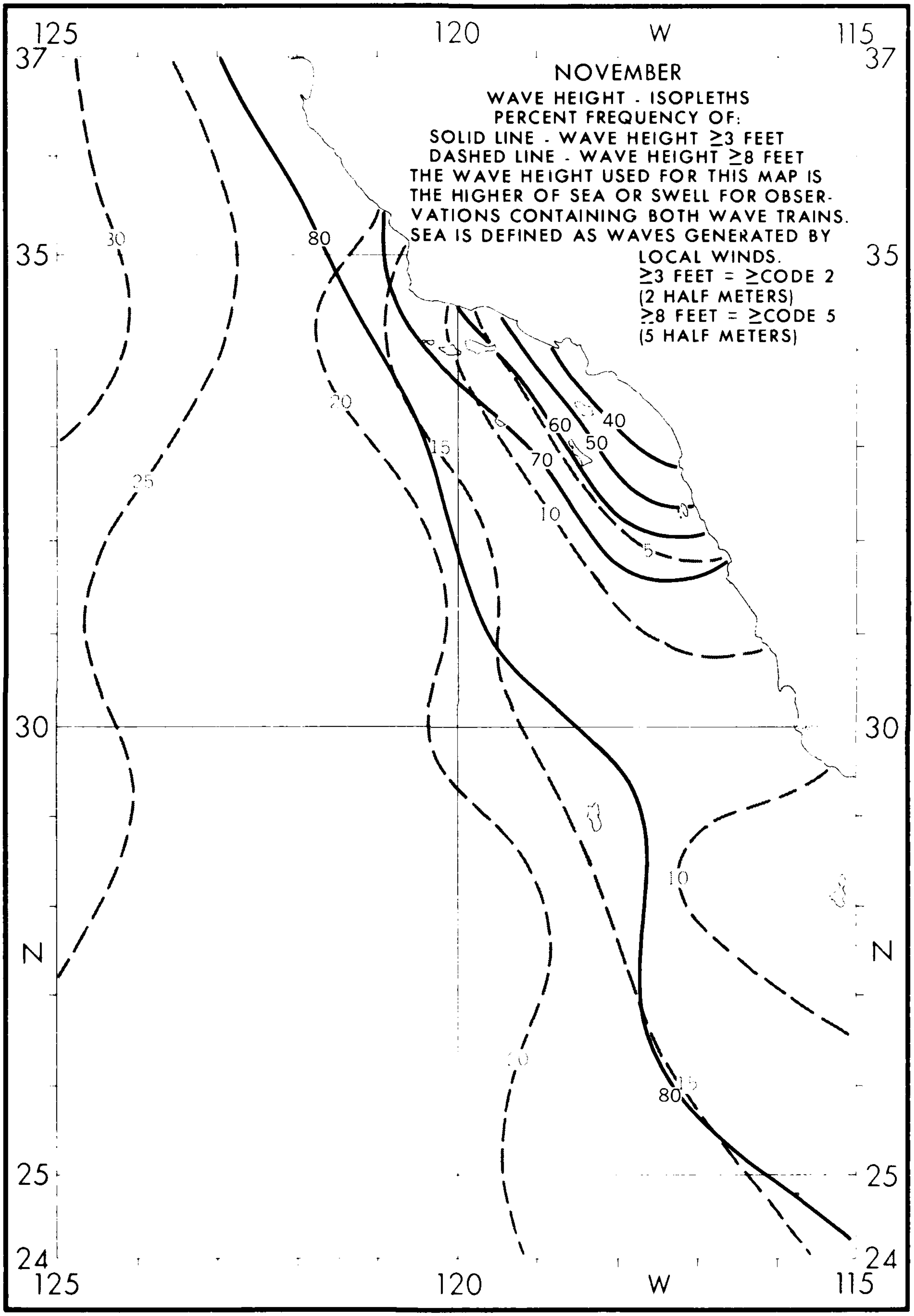


NOVEMBER

AIR AND SEA TEMPERATURE

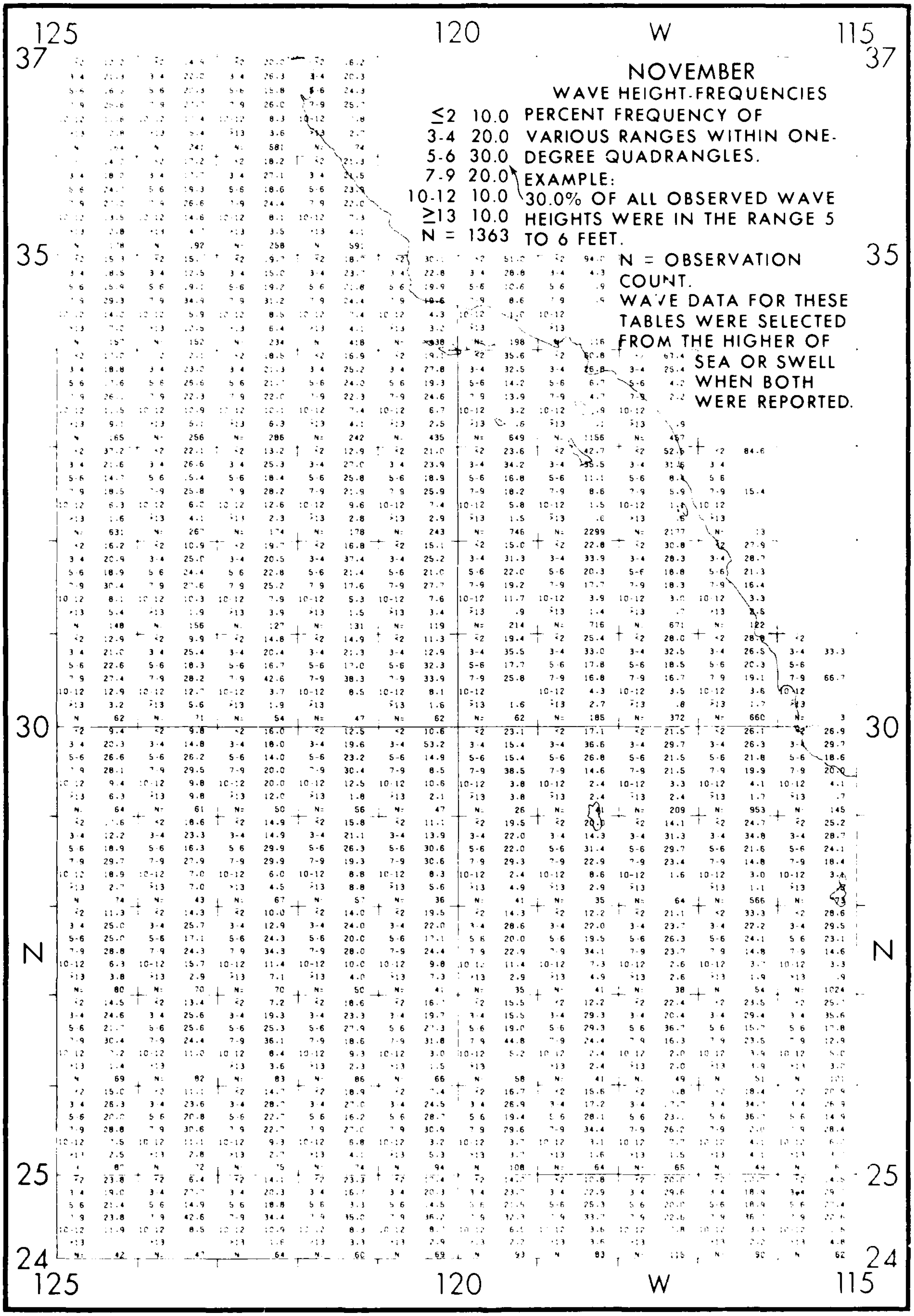
SOLID LINE - MEAN AIR TEMPERATURE (°F)

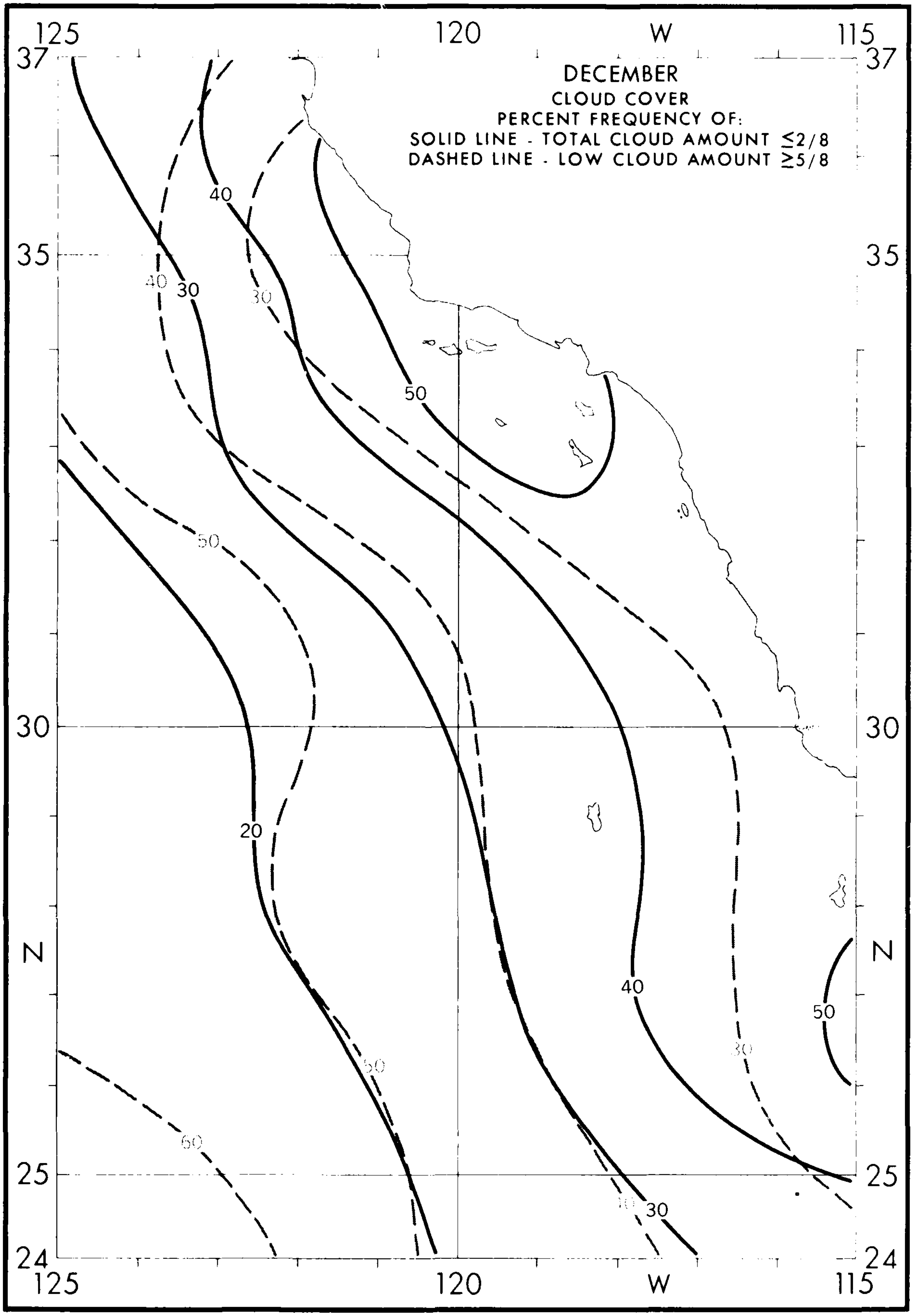
DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)



NOVEMBER

WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)


NOVEMBER
WAVE HEIGHT-FREQUENCIES
≤2 10.0
3-4 20.0
5-6 30.0
7-9 20.0
10-12 10.0
≥13 10.0
N = 1363
PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.
EXAMPLE: 30.0% OF ALL OBSERVED WAVE HEIGHTS WERE IN THE RANGE 5 TO 6 FEET.
N = OBSERVATION COUNT.
WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.
125
120
W
115
37
35
30
N
25
24



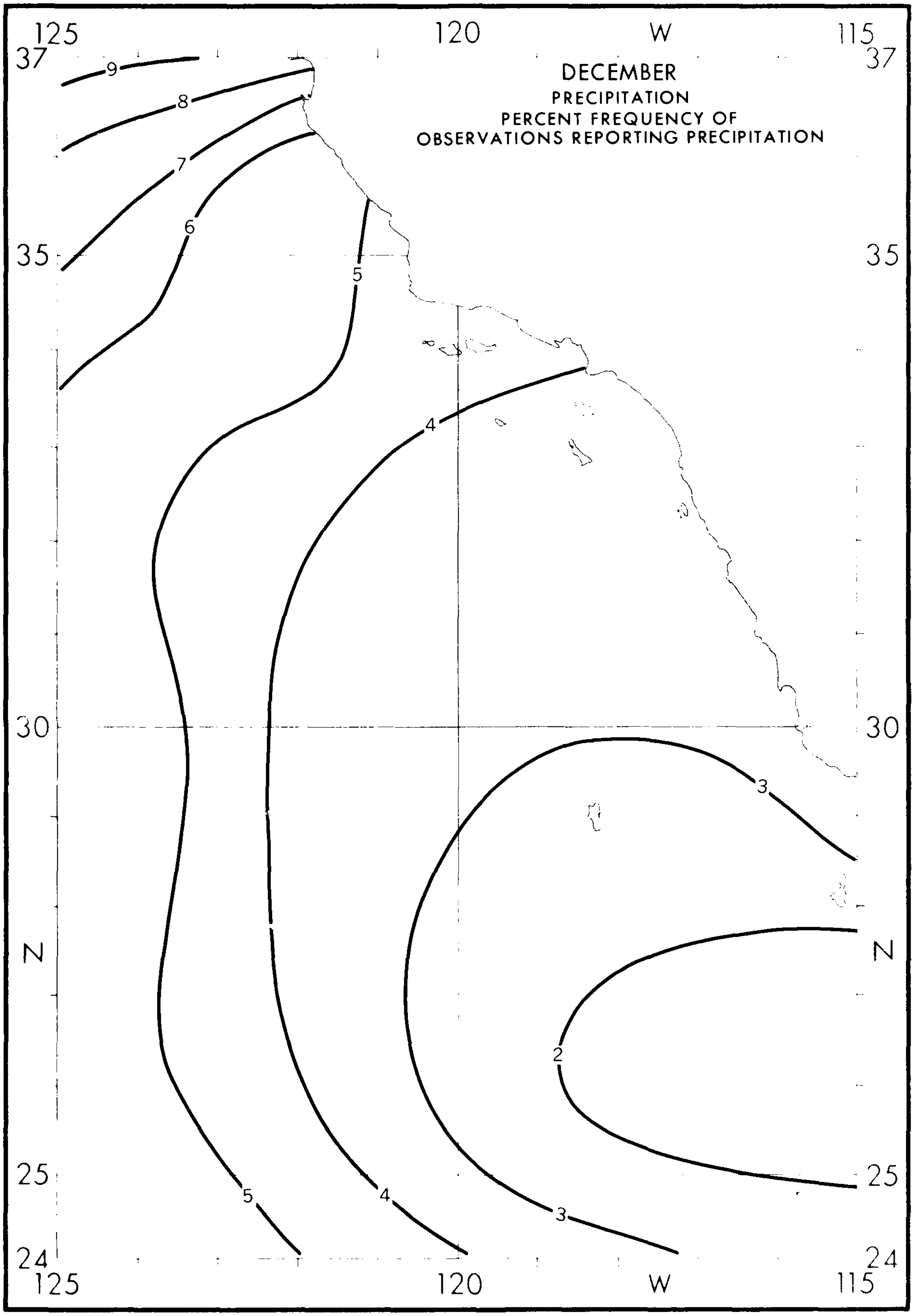
DECEMBER

CLOUD COVER

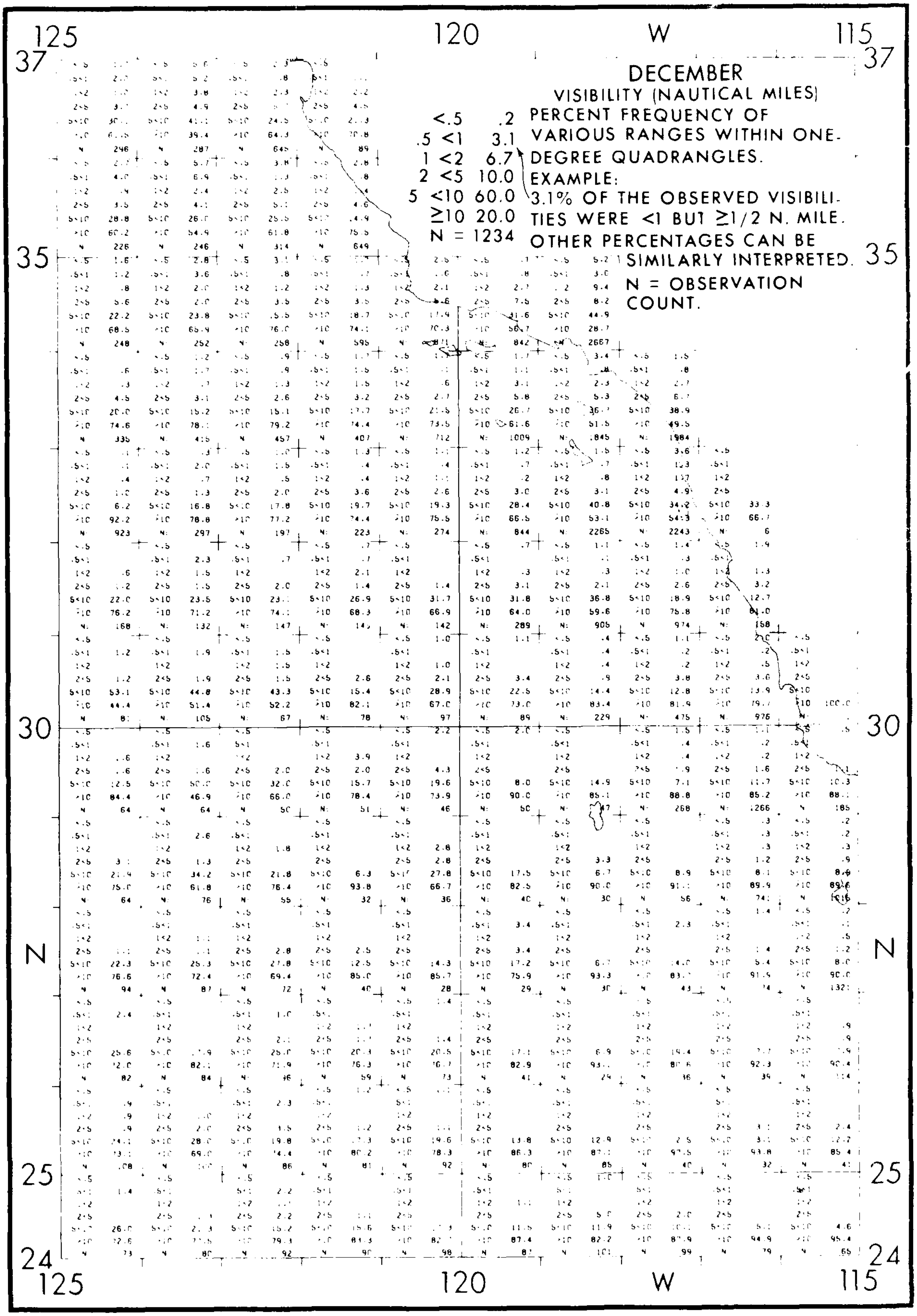
PERCENT FREQUENCY OF:

SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8

DASHED LINE - LOW CLOUD AMOUNT ≥5/8



DECEMBER
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION



DECEMBER

VISIBILITY (NAUTICAL MILES)

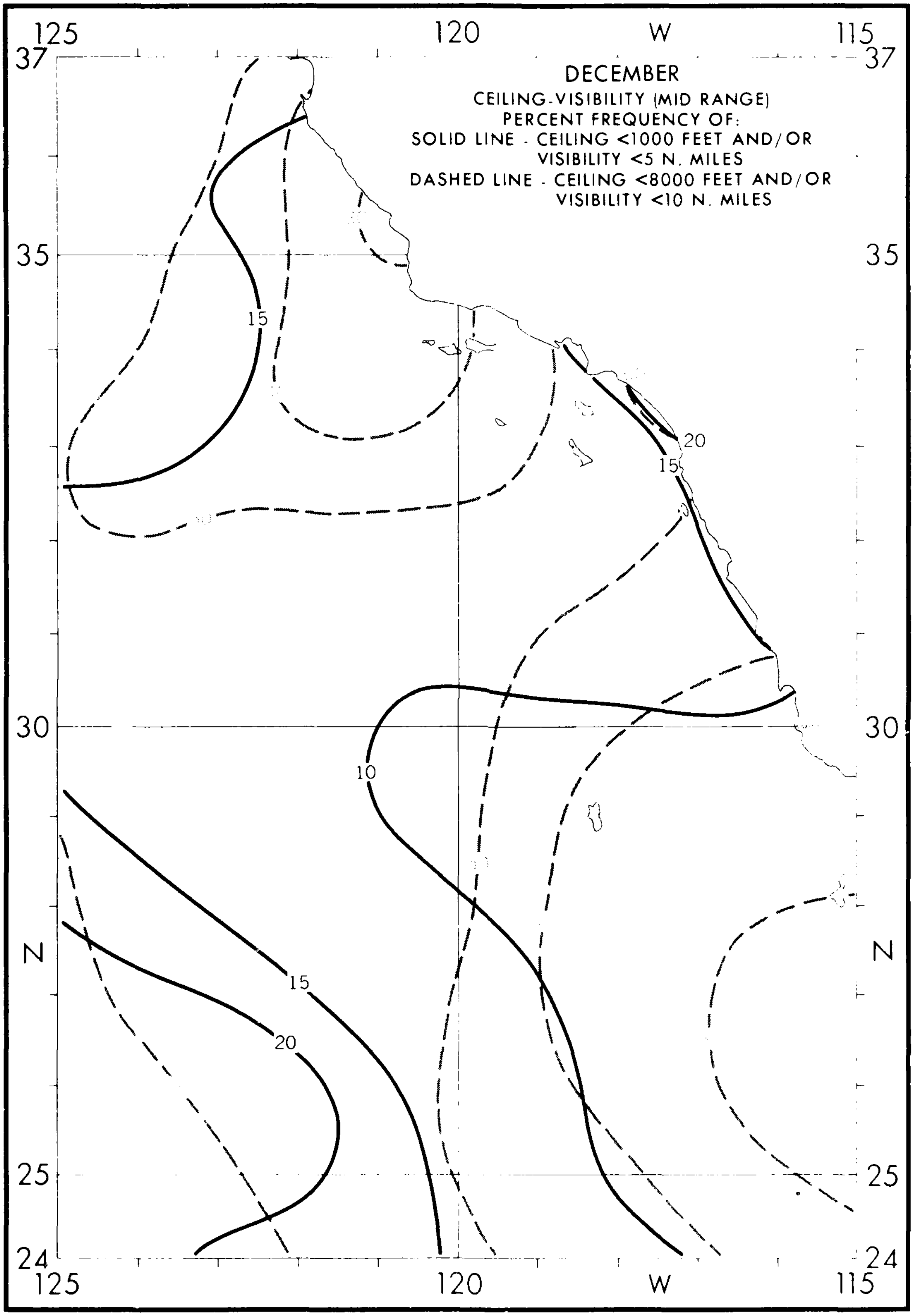
<.5	.2
.5 <1	3.1
1 <2	6.7
2 <5	10.0
5 <10	60.0
≥10	20.0
N =	1234

PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

EXAMPLE:

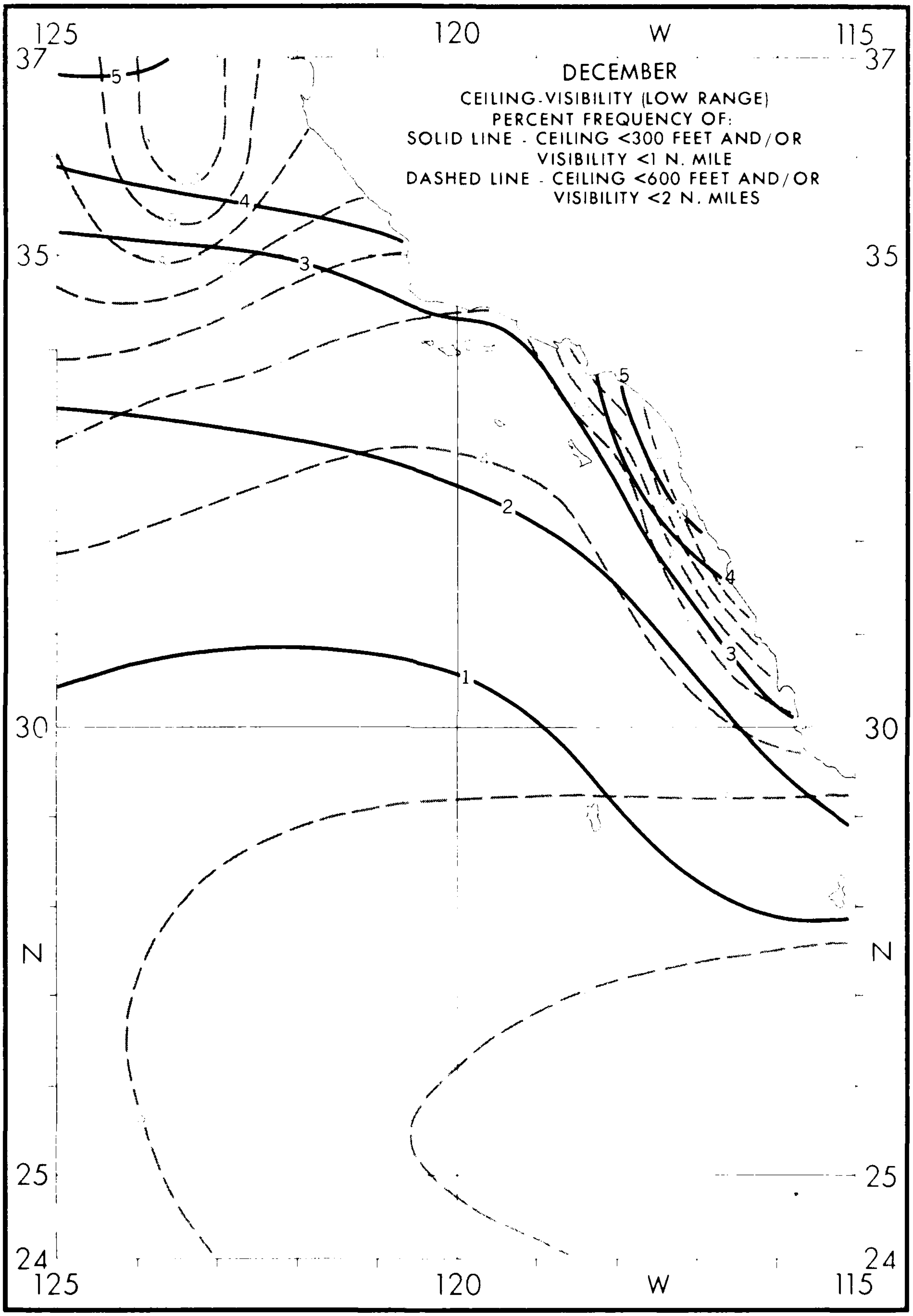
3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.

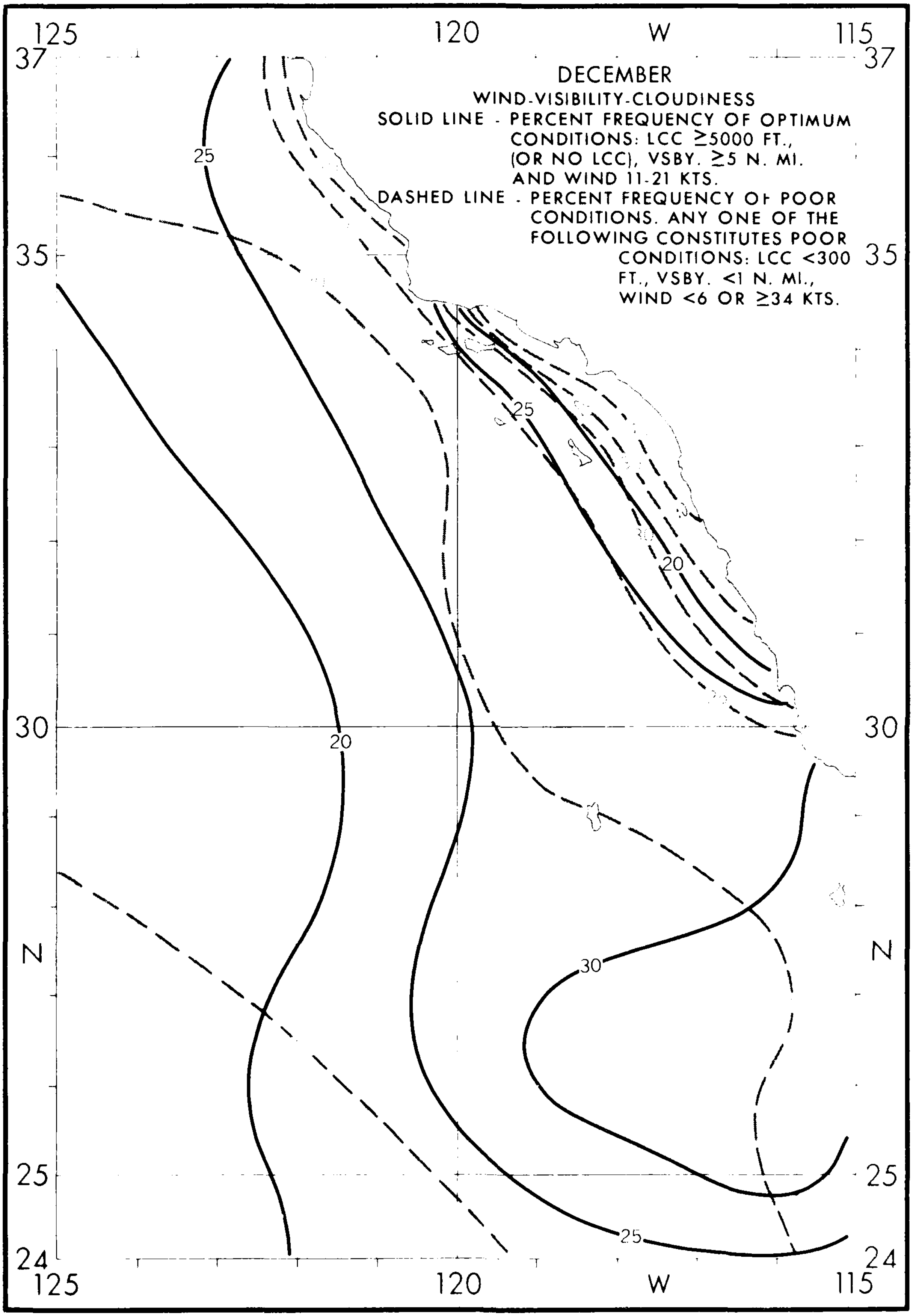
N = OBSERVATION COUNT.



DECEMBER

CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR
VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR
VISIBILITY <10 N. MILES


DECEMBER
CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES
125
120
W
115
37
35
30
N
25
24
5
4
3
2
1
5
4
3

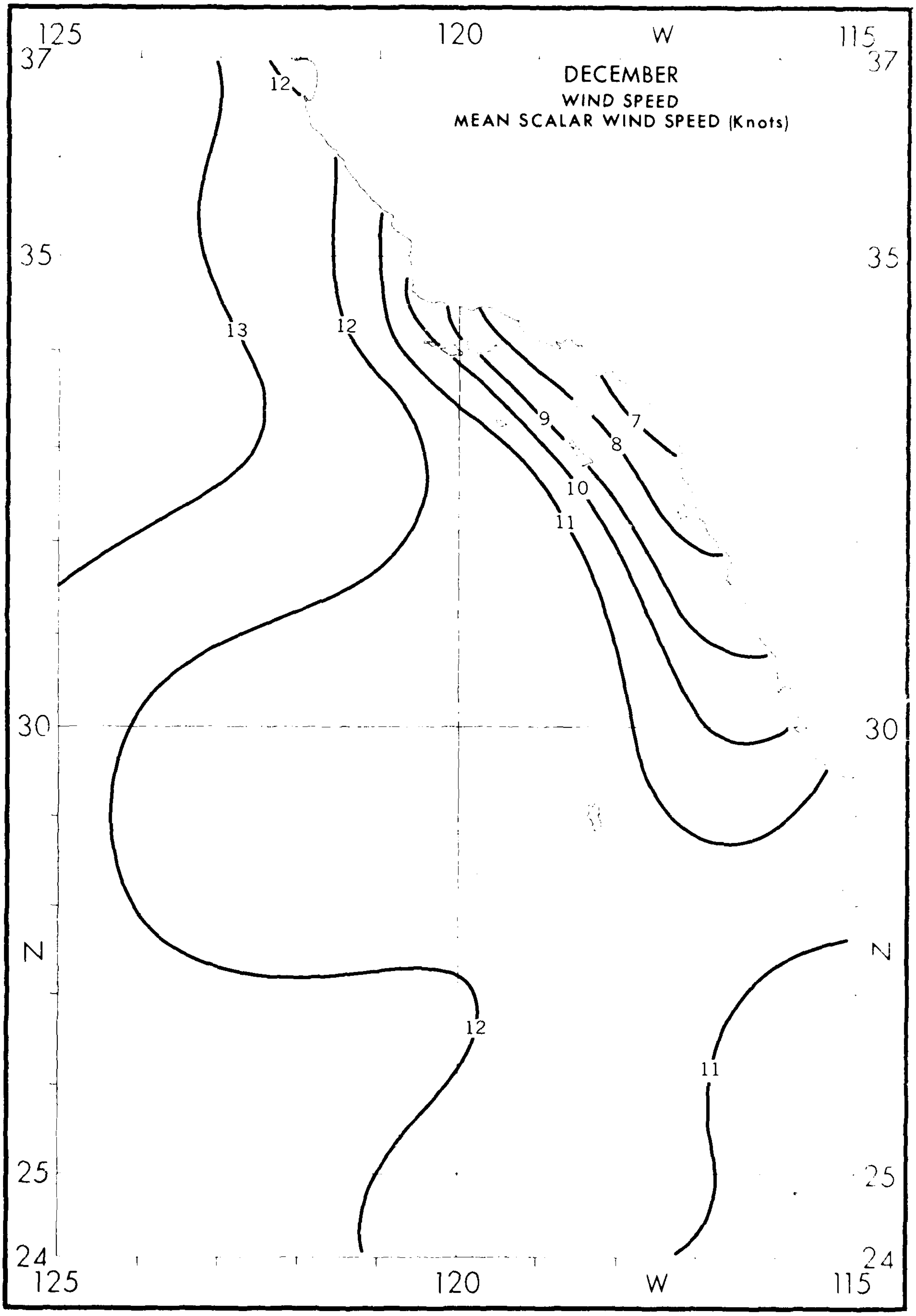


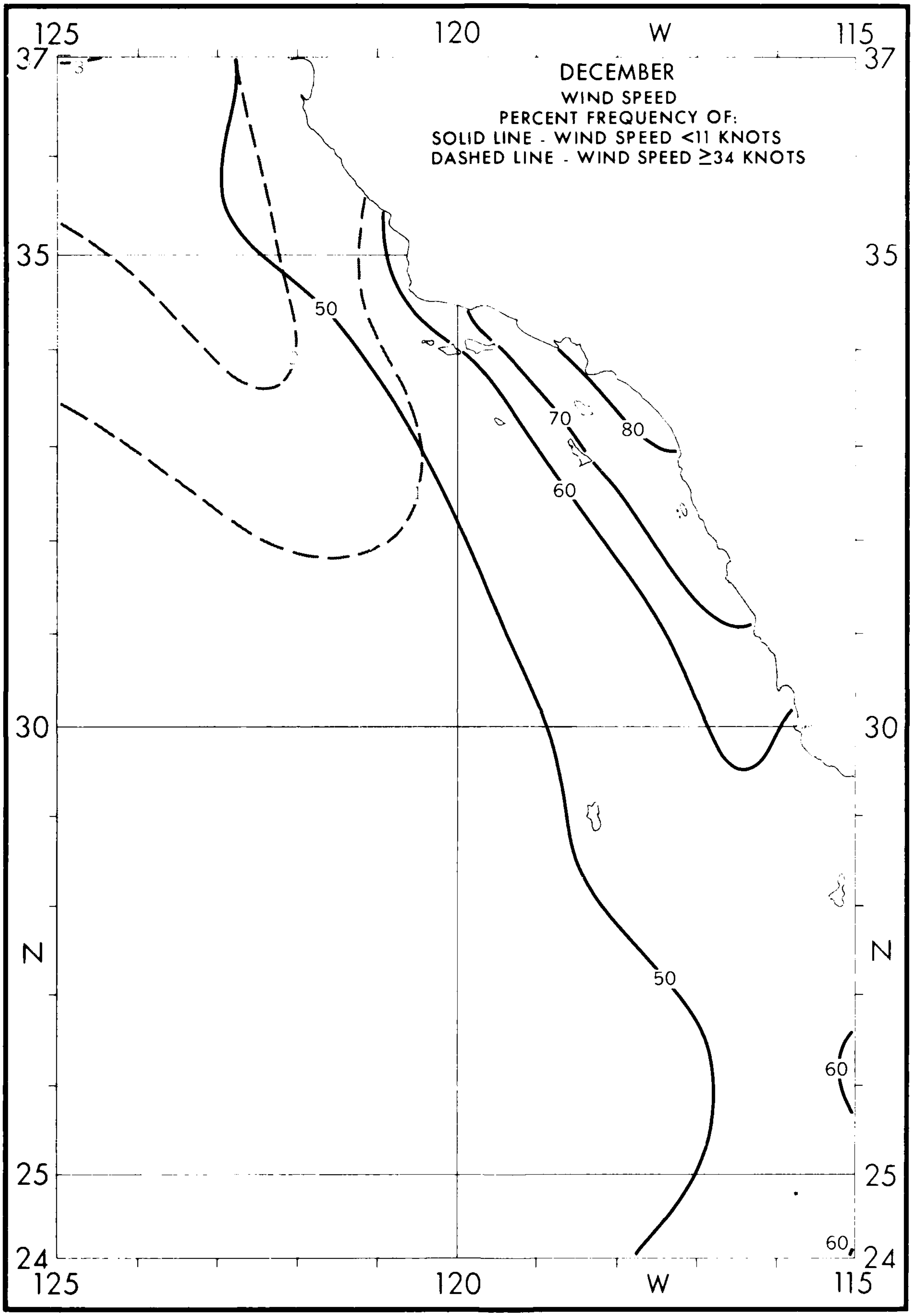
DECEMBER

WIND-VISIBILITY-CLOUDINESS

SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.

DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.

125
120
W
115
37
35
30
N
25
24
DECEMBER
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)
13
12
12
12
11
11
10
9
8
7



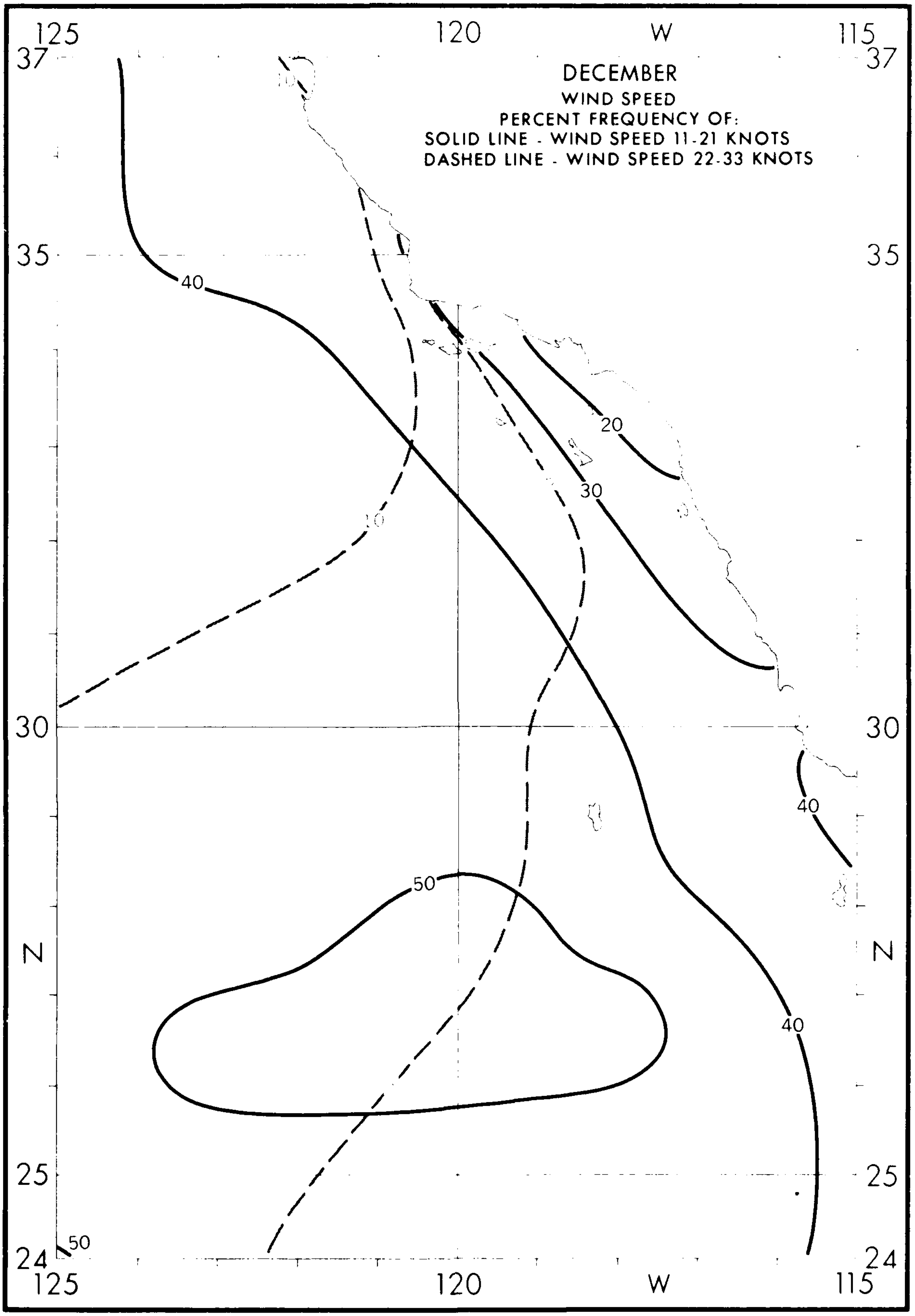
DECEMBER

WIND SPEED

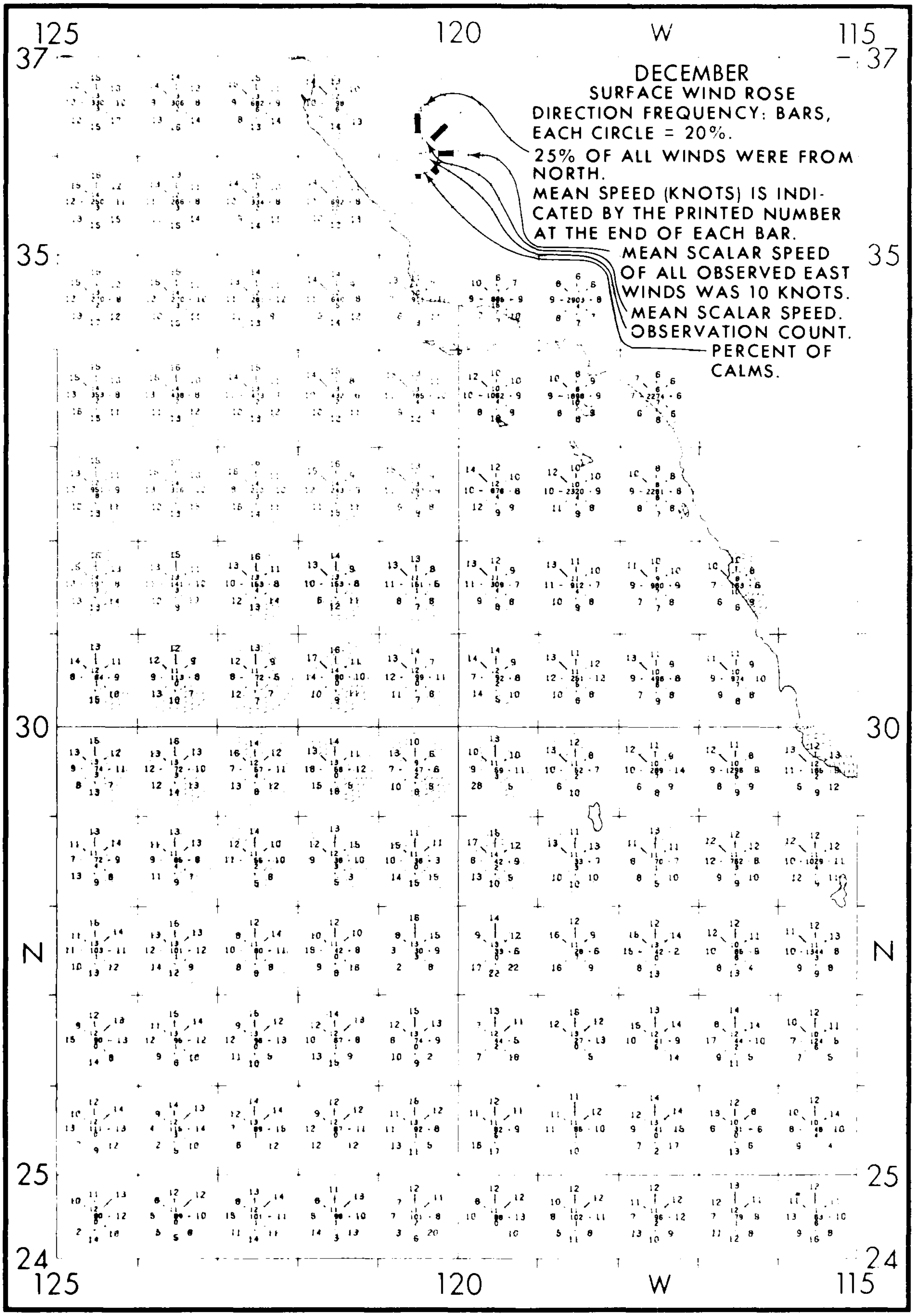
PERCENT FREQUENCY OF:

SOLID LINE - WIND SPEED <11 KNOTS

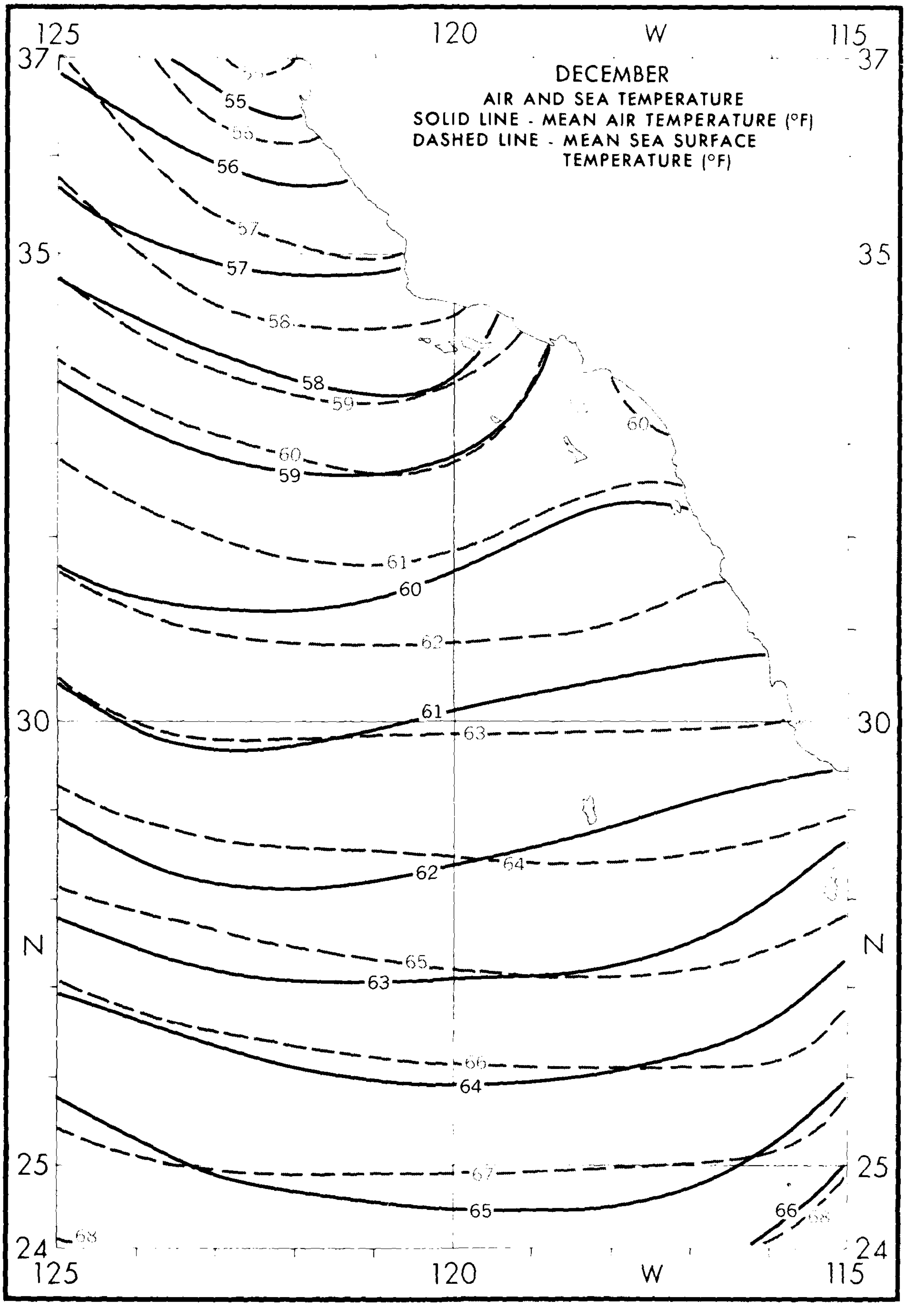
DASHED LINE - WIND SPEED ≥34 KNOTS



DECEMBER
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED 11-21 KNOTS
DASHED LINE - WIND SPEED 22-33 KNOTS



DECEMBER
SURFACE WIND ROSE

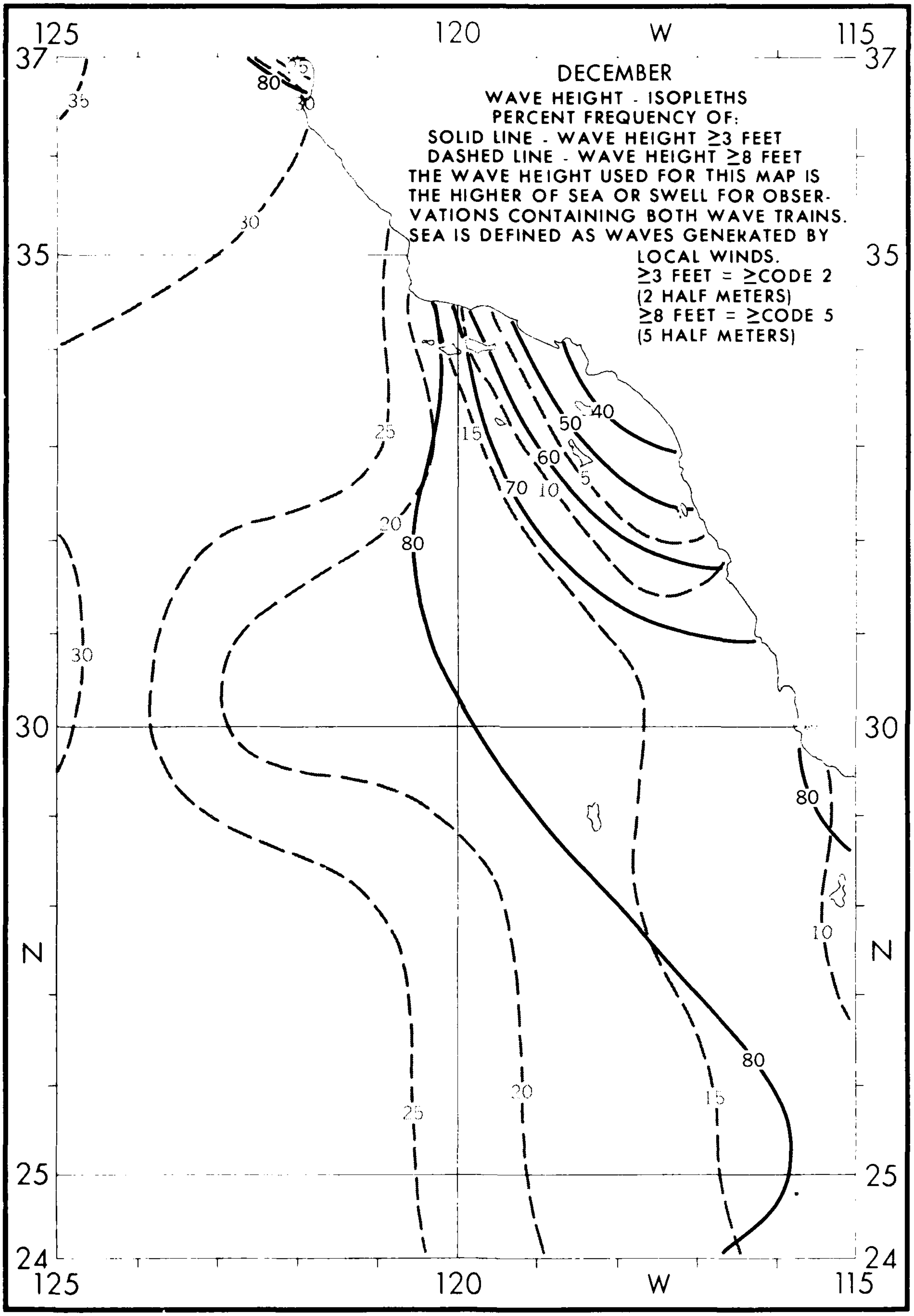


DECEMBER

AIR AND SEA TEMPERATURE

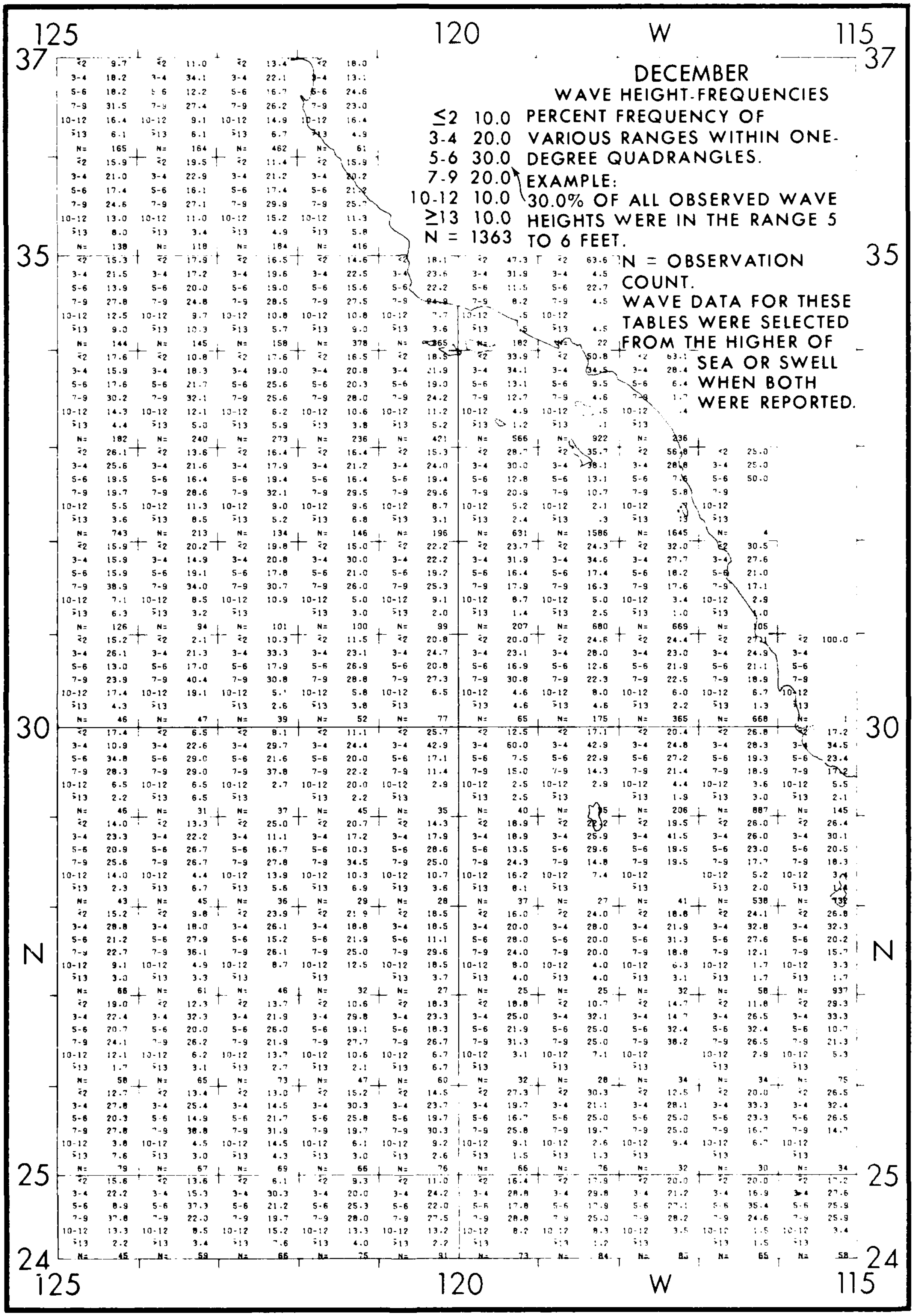
SOLID LINE - MEAN AIR TEMPERATURE (°F)

DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)



DECEMBER

WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)



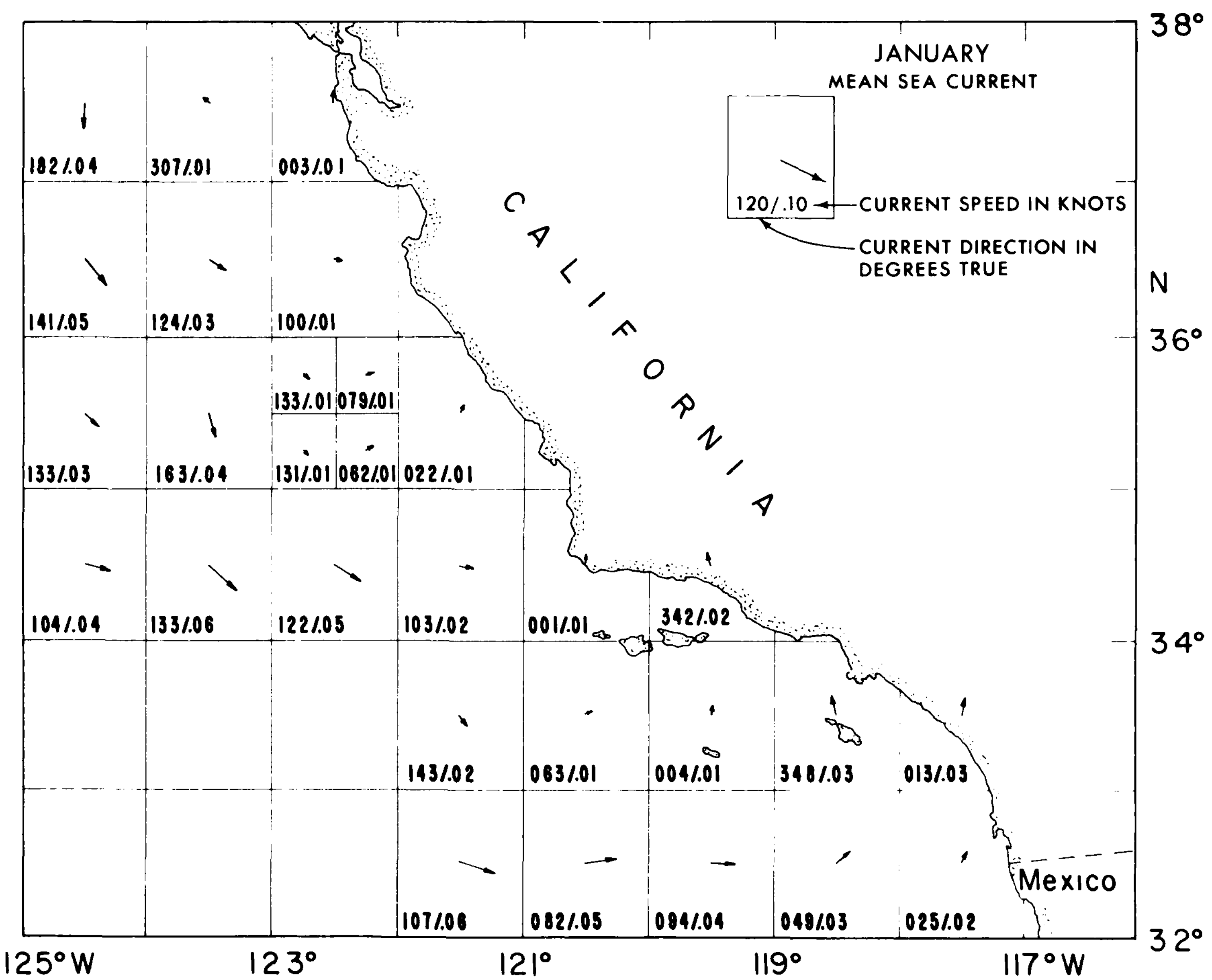
DECEMBER

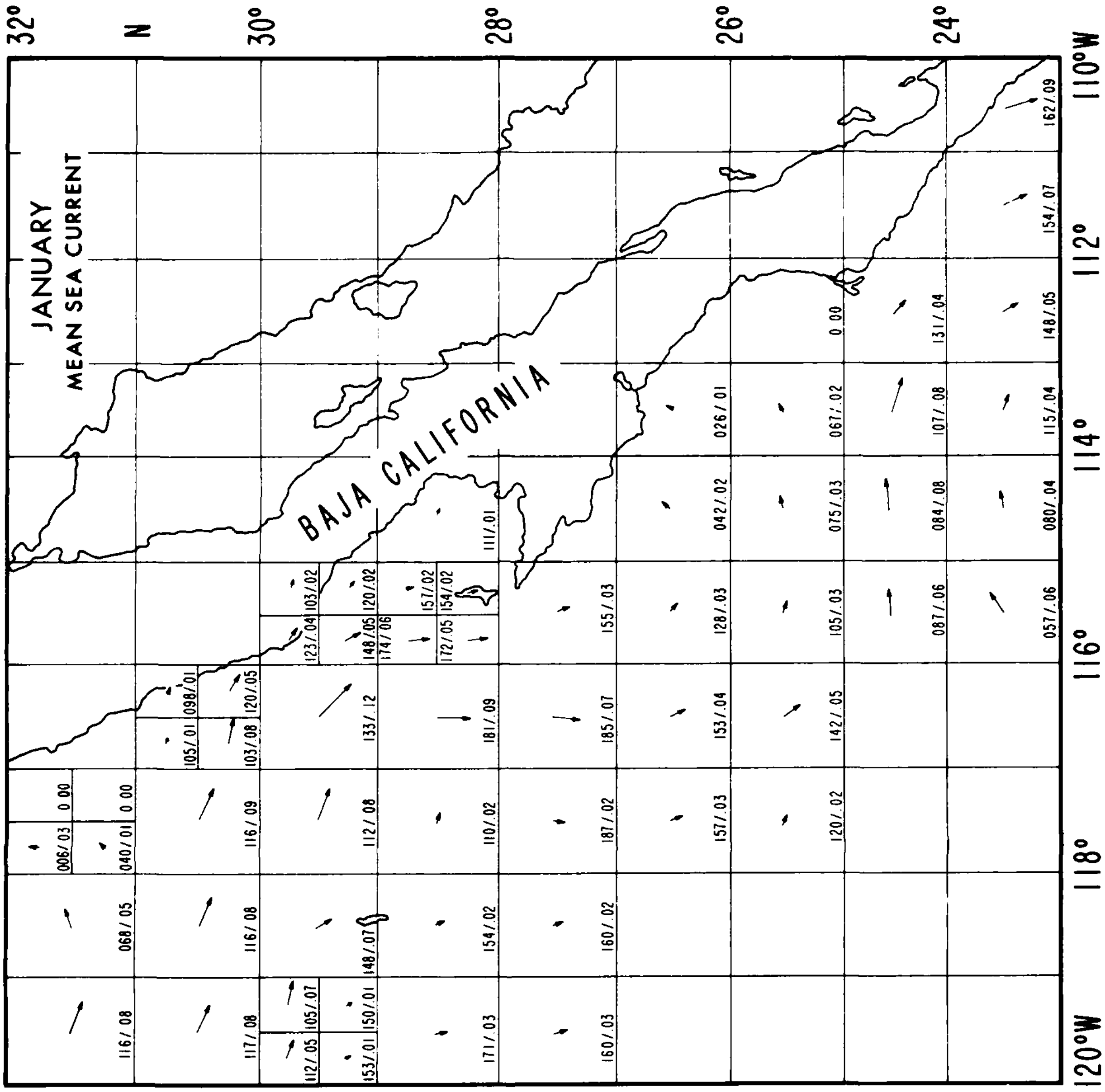
WAVE HEIGHT-FREQUENCIES

≤2 10.0 PERCENT FREQUENCY OF
3-4 20.0 VARIOUS RANGES WITHIN ONE-
5-6 30.0 DEGREE QUADRANGLES.
7-9 20.0 EXAMPLE:
10-12 10.0 30.0% OF ALL OBSERVED WAVE
≥13 10.0 HEIGHTS WERE IN THE RANGE 5
N = 1363 TO 6 FEET.

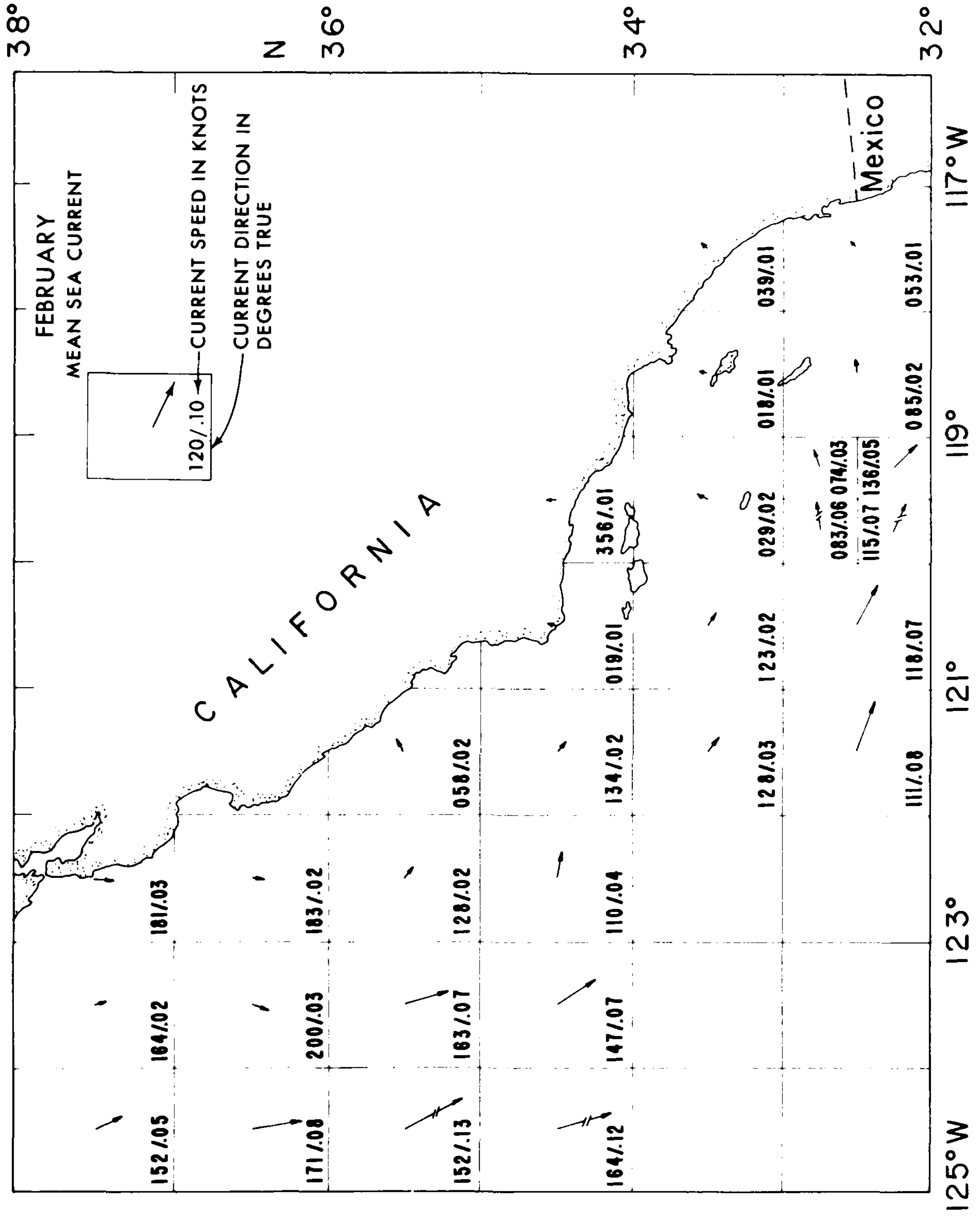
N = OBSERVATION COUNT.

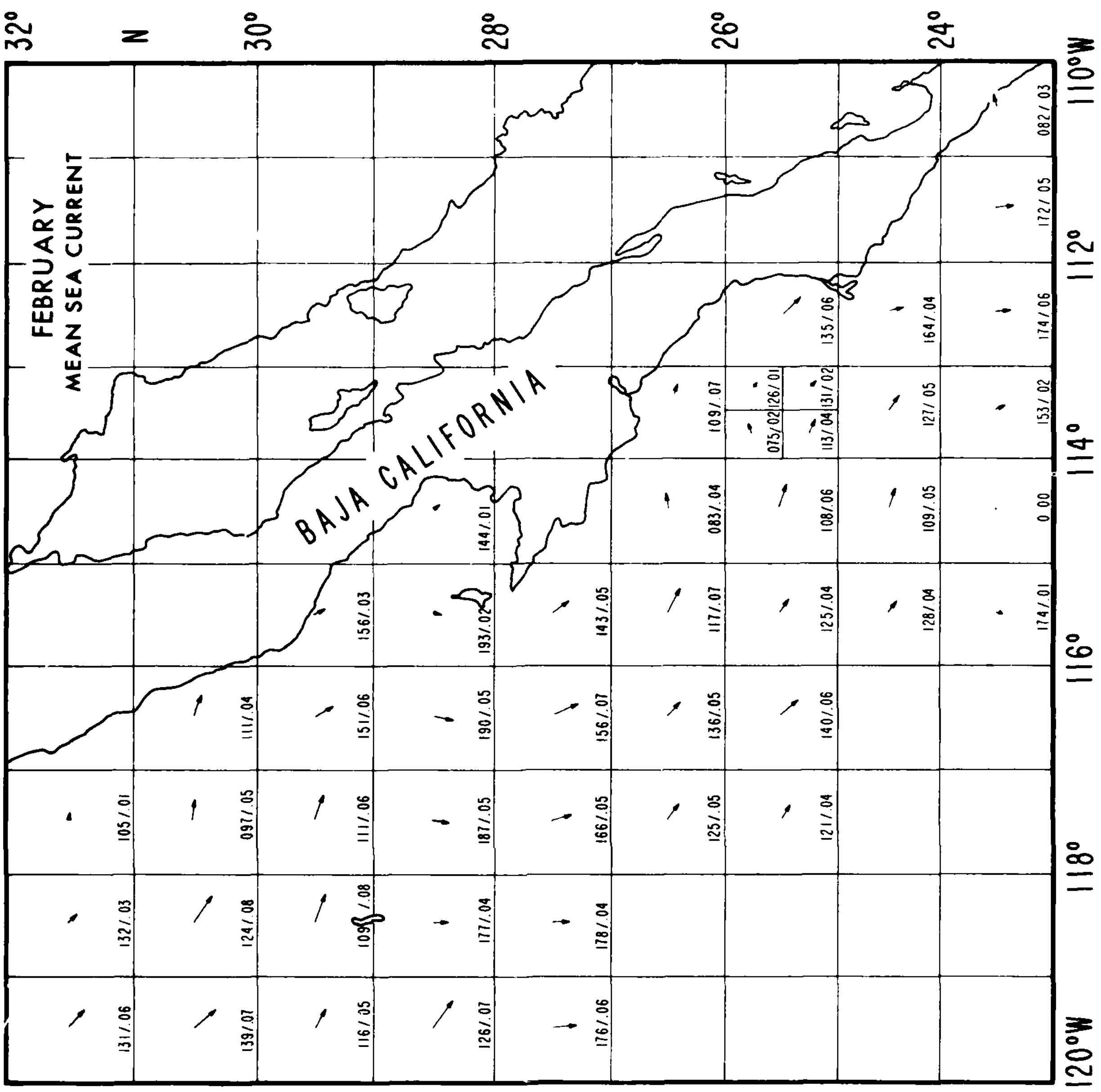
WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.

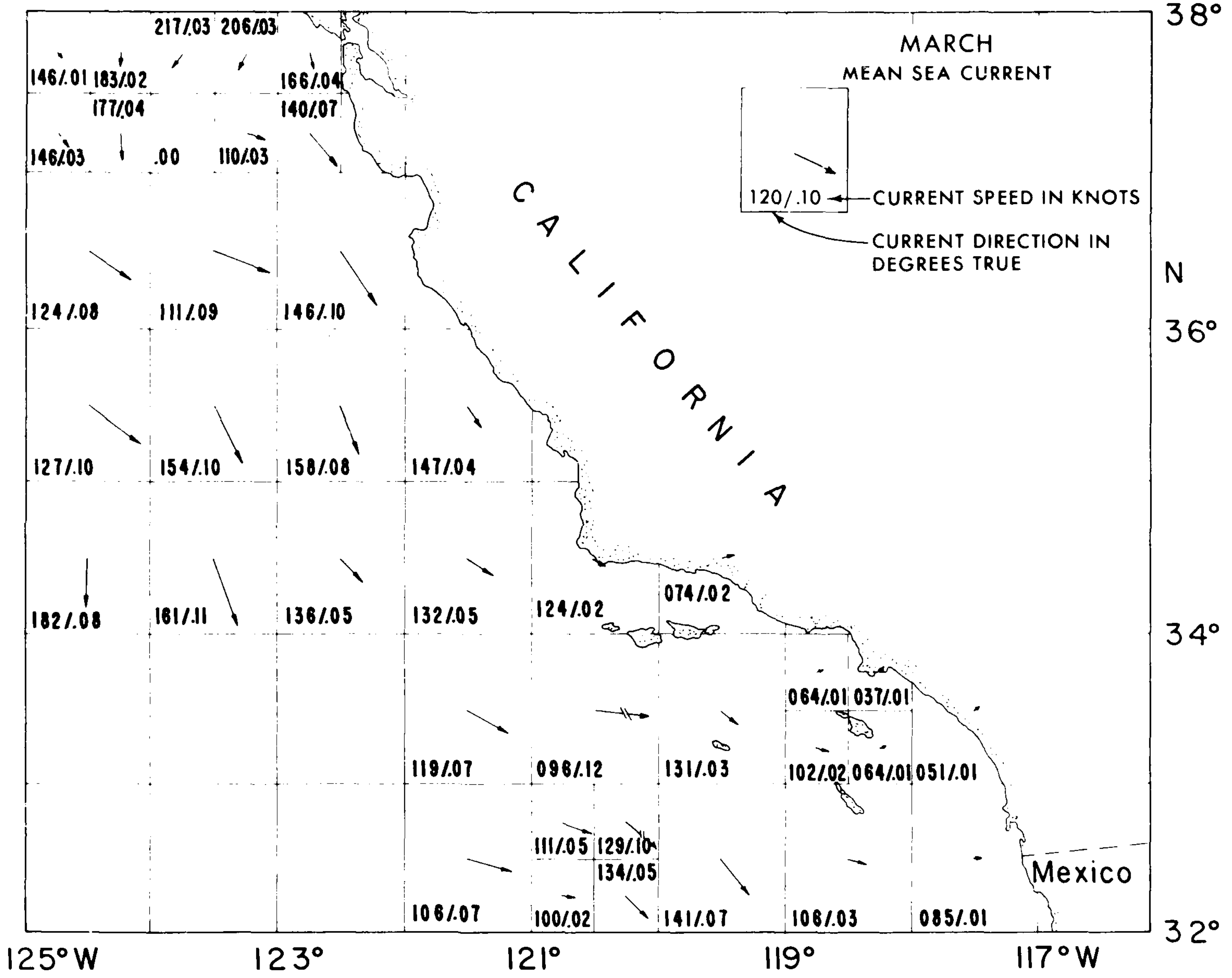

JANUARY
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
N
38°
36°
34°
32°
125°W
123°
121°
119°
117°W
182/.04
307/.01
003/.01
141/.05
124/.03
100/.01
133/.03
163/.04
133/.01
079/.01
131/.01
062/.01
022/.01
104/.04
133/.06
122/.05
103/.02
001/.01
342/.02
143/.02
063/.01
004/.01
348/.03
013/.03
107/.06
082/.05
094/.04
049/.03
025/.02

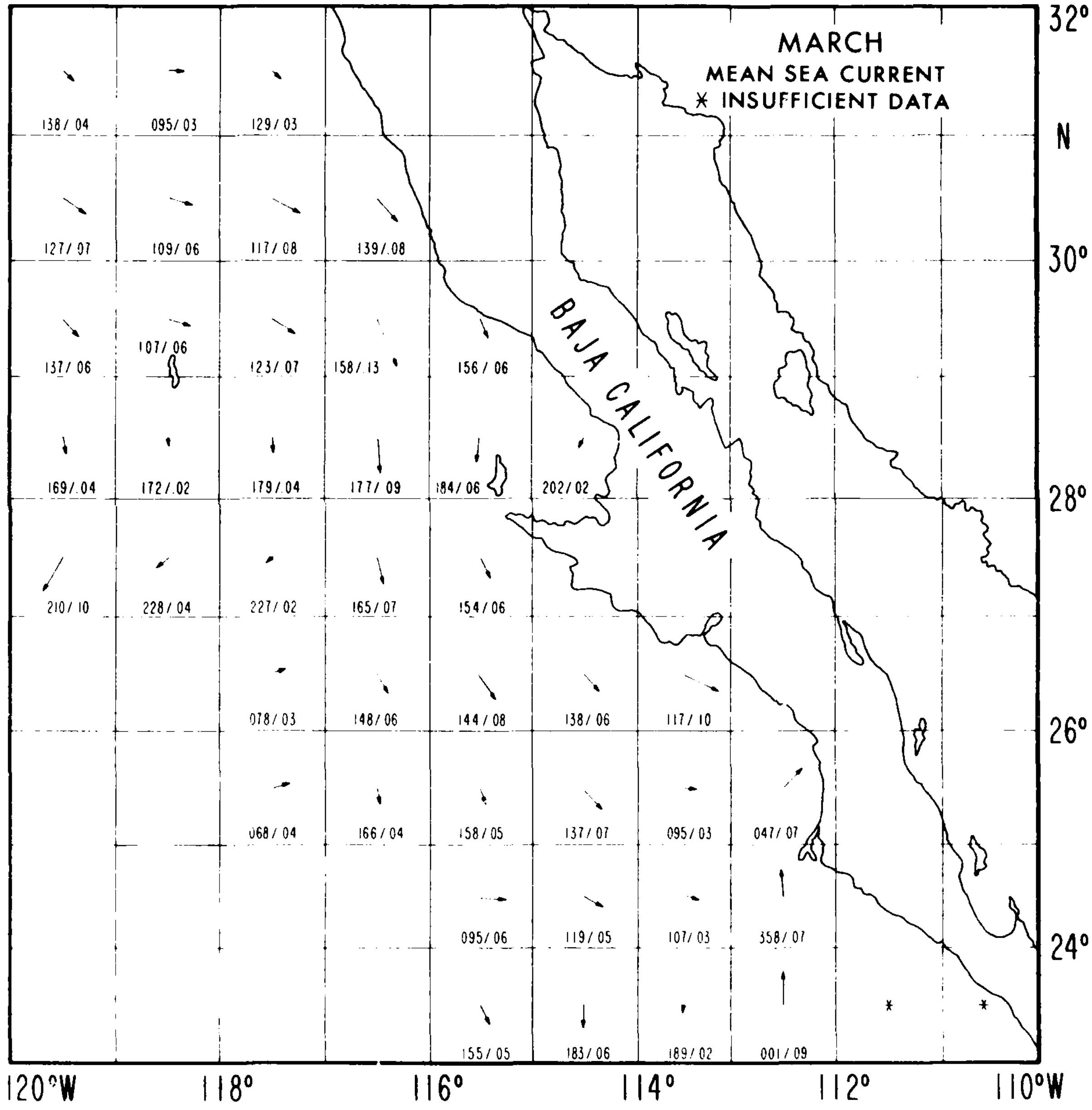


JANUARY
MEAN SEA CURRENT


FEBRUARY
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
38°
N 36°
34°
32°
125°W
123°
121°
119°
117°W
152/.05
164/.02
161/.03
171/.08
200/.03
183/.02
152/.13
163/.07
128/.02
058/.02
164/.12
147/.07
110/.04
134/.02
019/.01
356/.01
128/.03
123/.02
029/.02
018/.01
039/.01
111/.08
118/.07
083/.06
074/.03
115/.07
136/.05
085/.02
053/.01


FEBRUARY
MEAN SEA CURRENT
BAJA CALIFORNIA
32°
N
30°
28°
26°
24°
110°W
112°
114°
116°
118°
120°W
082/.03
172/.05
174/.06
153/.02
0.00
174/.01
164/.04
127/.05
109/.05
128/.04
135/.06
131/.02
126/.01
113/.04
075/.02
108/.06
125/.04
140/.06
121/.04
109/.07
083/.04
117/.07
136/.05
125/.05
144/.01
143/.05
156/.07
166/.05
178/.04
176/.06
193/.02
190/.05
187/.05
177/.04
126/.07
156/.03
151/.06
111/.06
109/.08
116/.05
111/.04
097/.05
124/.08
139/.07
105/.01
132/.03
131/.06

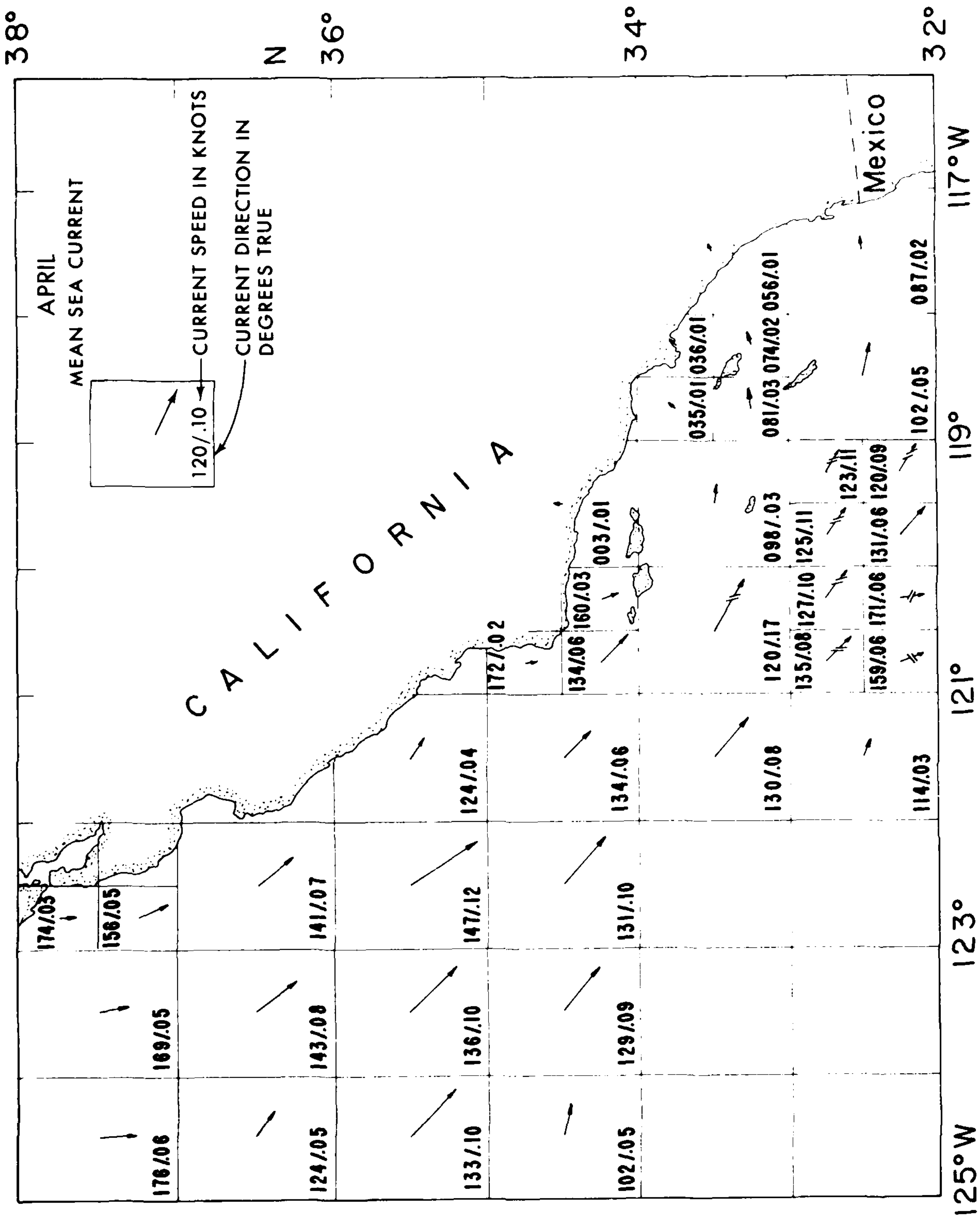

MARCH
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
38°
36°
34°
32°
N
125°W
123°
121°
119°
117°W
217/.03
206/.03
146/.01
183/.02
166/.04
177/.04
140/.07
146/.03
.00
110/.03
124/.08
111/.09
146/.10
127/.10
154/.10
158/.08
147/.04
182/.08
161/.11
136/.05
132/.05
124/.02
074/.02
064/.01
037/.01
119/.07
096/.12
131/.03
102/.02
064/.01
051/.01
111/.05
129/.10
134/.05
106/.07
100/.02
141/.07
106/.03
085/.01

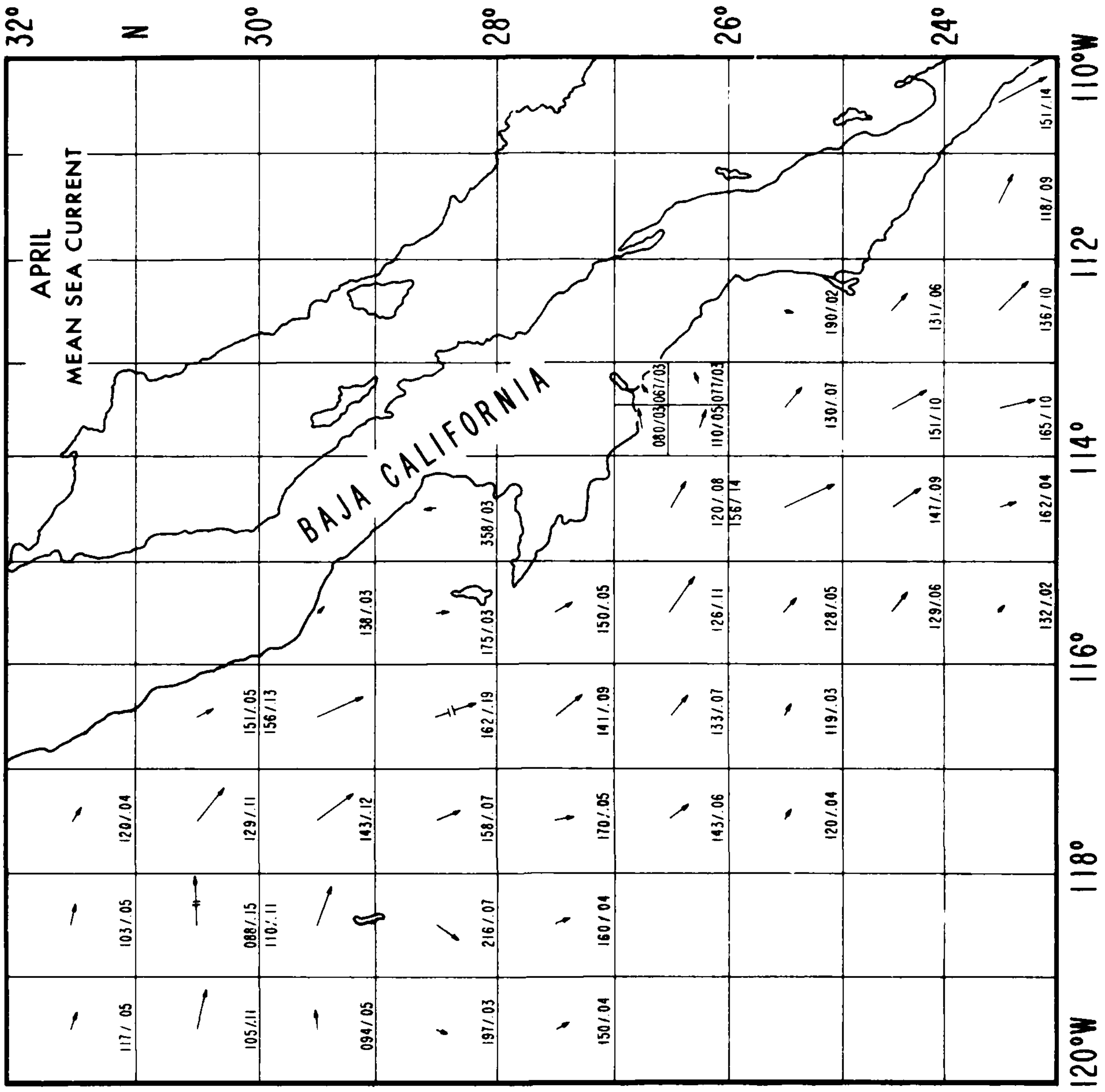


MARCH

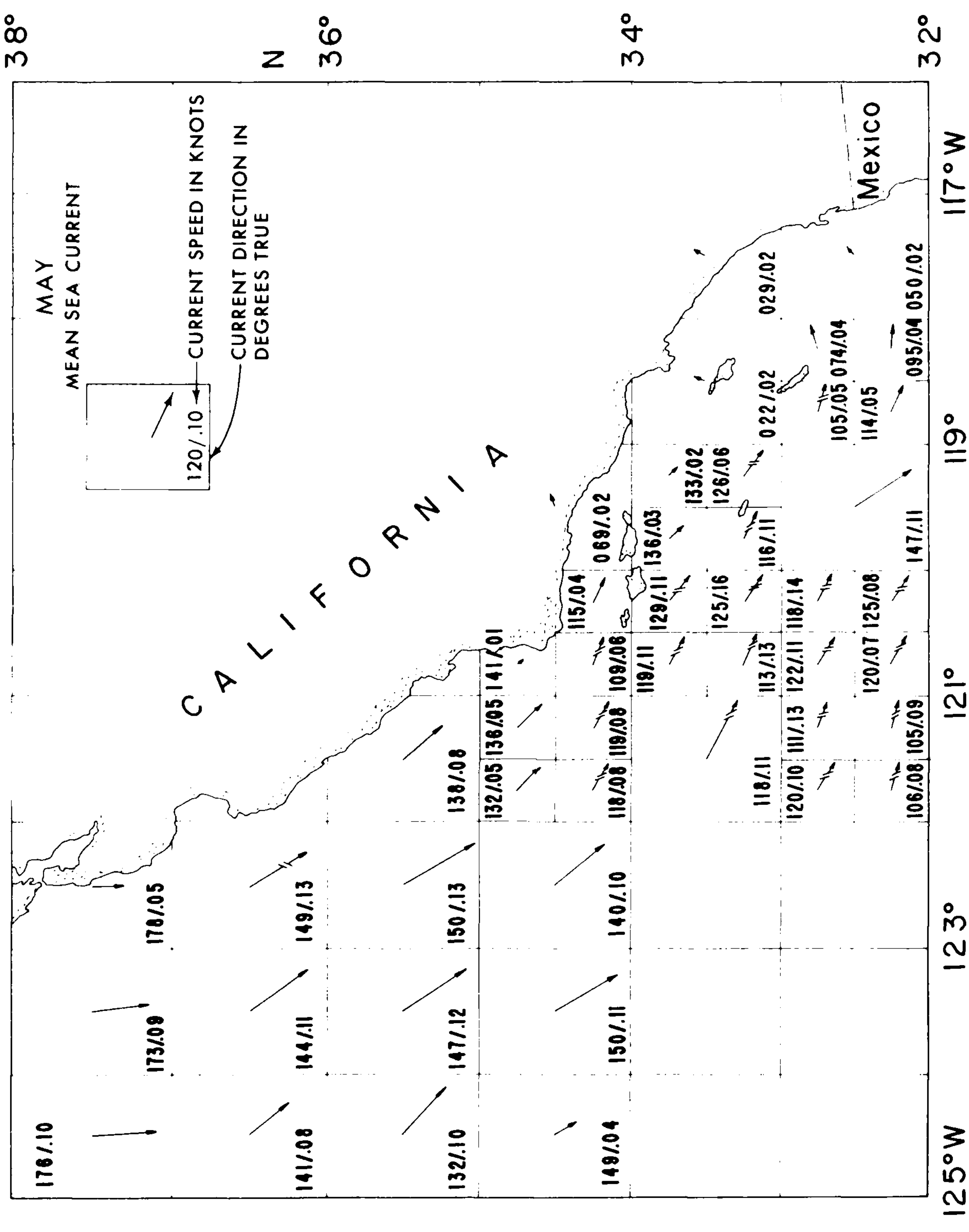
MEAN SEA CURRENT

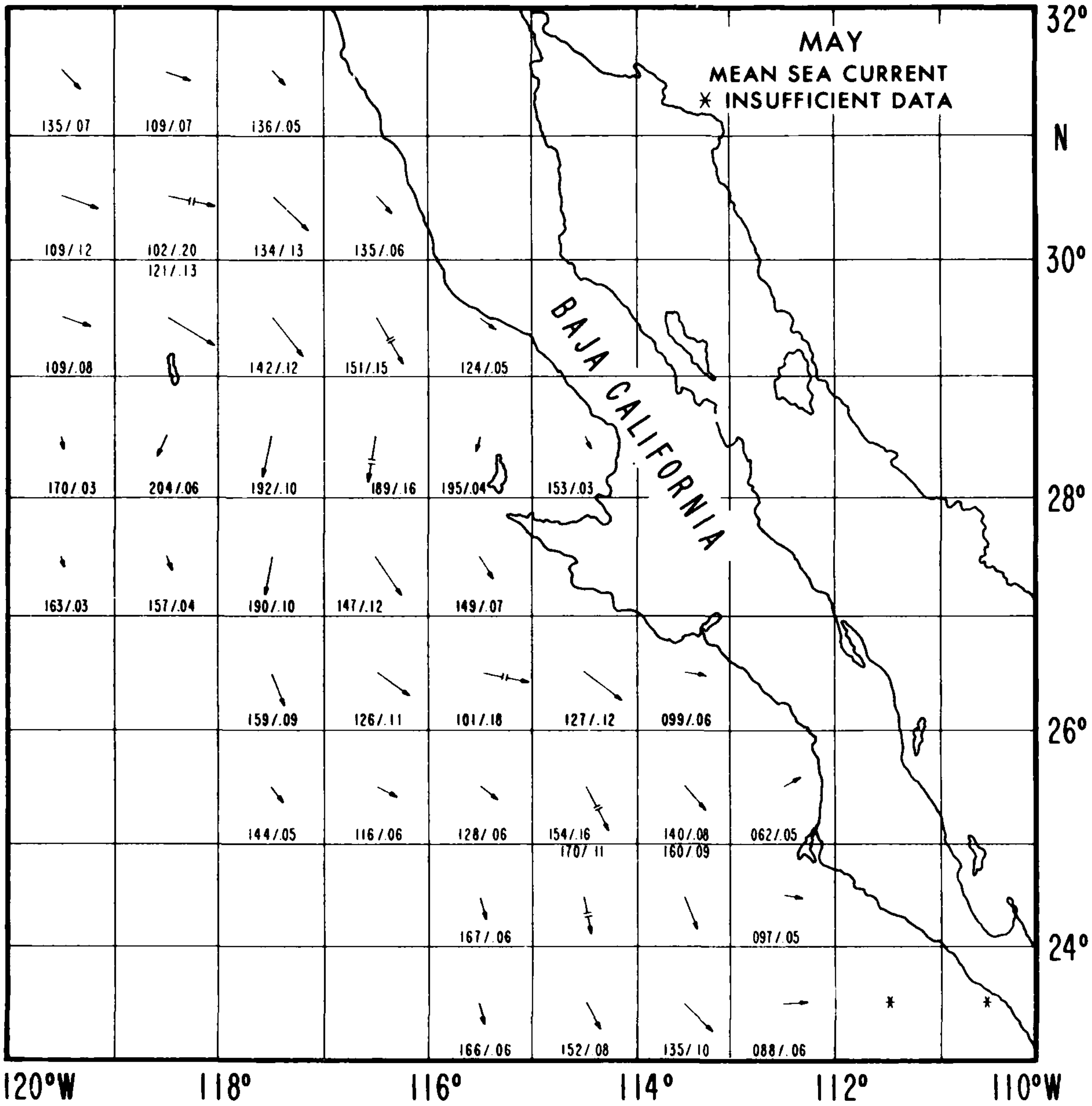
* INSUFFICIENT DATA

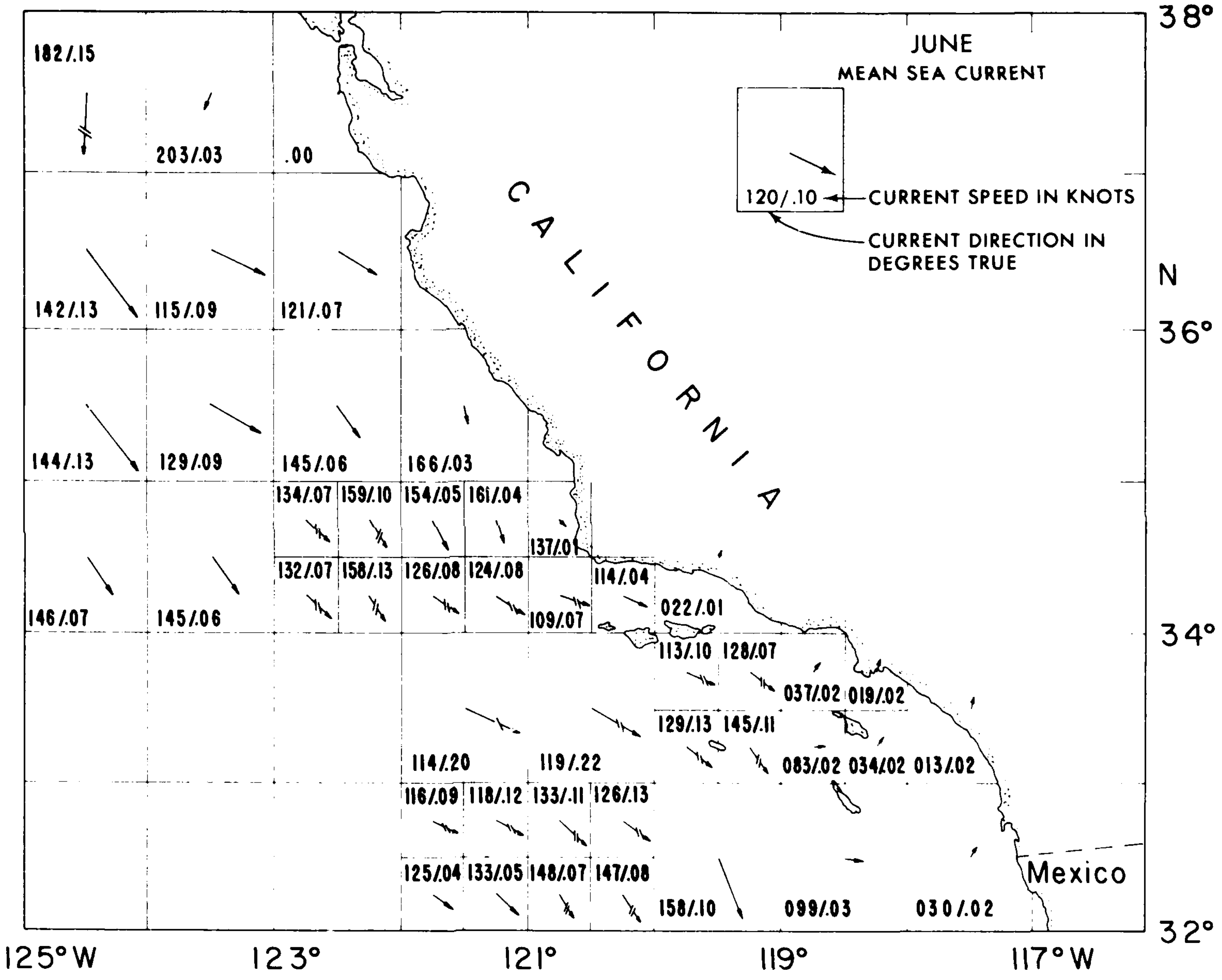

APRIL
MEAN SEA CURRENT
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
120/.10
CALIFORNIA
Mexico
38°
N
36°
34°
32°
117°W
119°
121°
123°
125°W
087/.02
056/.01
074/.02
081/.03
036/.01
035/.01
102/.05
120/.09
123/.11
131/.06
125/.11
098/.03
003/.01
171/.06
127/.10
160/.03
120/.17
159/.06
135/.08
134/.06
172/.02
114/.03
130/.08
134/.06
124/.04
131/.10
147/.12
141/.07
156/.05
174/.05
129/.09
136/.10
143/.08
169/.05
102/.05
133/.10
124/.05
176/.06



APRIL
MEAN SEA CURRENT


MAY
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
38°
N
36°
34°
32°
117°W
119°
121°
123°
125°W
178/.05
149/.13
138/.08
150/.13
140/.10
173/.09
144/.11
147/.12
150/.11
178/.10
141/.08
132/.10
149/.04
141/.01
136/.05
132/.05
115/.04
109/.06
119/.06
118/.06
069/.02
136/.03
129/.11
119/.11
133/.02
126/.06
125/.16
116/.11
113/.13
118/.11
118/.14
122/.11
111/.13
120/.10
022/.02
029/.02
105/.05
114/.05
074/.04
095/.04
050/.02
147/.11
125/.08
120/.07
105/.09
106/.08


MAY
MEAN SEA CURRENT
* INSUFFICIENT DATA
BAJA CALIFORNIA
32°
N
30°
28°
26°
24°
120°W
118°
116°
114°
112°
110°W
135/07
109/07
136/.05
109/12
102/.20
121/.13
134/13
135/.06
109/.08
142/.12
151/.15
124/.05
170/03
204/.06
192/.10
189/.16
195/.04
153/.03
163/.03
157/.04
190/.10
147/.12
149/.07
159/.09
126/.11
101/.18
127/.12
099/.06
144/.05
116/.06
128/06
154/.16
170/11
140/.08
160/09
062/.05
167/.06
097/.05
166/.06
152/08
135/10
088/.06
*
*


JUNE
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
N
38°
36°
34°
32°
125°W
123°
121°
119°
117°W
182/.15
203/.03
.00
142/.13
115/.09
121/.07
144/.13
129/.09
145/.06
166/.03
134/.07
159/.10
154/.05
161/.04
137/.01
146/.07
145/.06
132/.07
158/.13
126/.08
124/.08
109/.07
114/.04
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113/.10
128/.07
037/.02
019/.02
129/.13
145/.11
114/.20
119/.22
083/.02
034/.02
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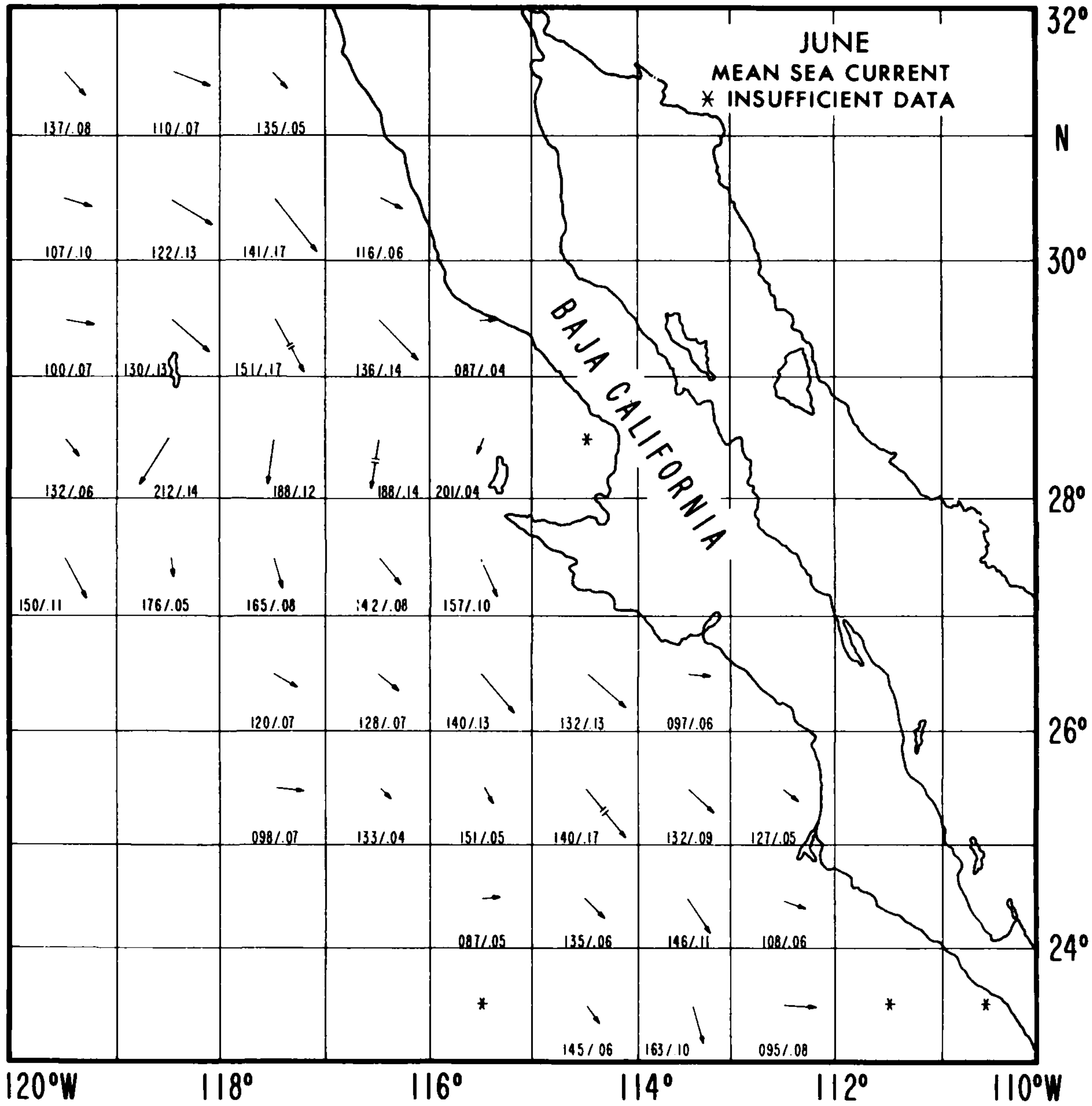
125/.04
133/.05
148/.07
147/.08
158/.10
099/.03
030/.02


JUNE
MEAN SEA CURRENT
* INSUFFICIENT DATA
32°
N
30°
28°
26°
24°
120°W
118°
116°
114°
112°
110°W
BAJA CALIFORNIA
137/.08
110/.07
135/.05
107/.10
122/.13
141/.17
116/.06
100/.07
130/.13
151/.17
136/.14
087/.04
132/.06
212/.14
188/.12
188/.14
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150/.11
176/.05
165/.08
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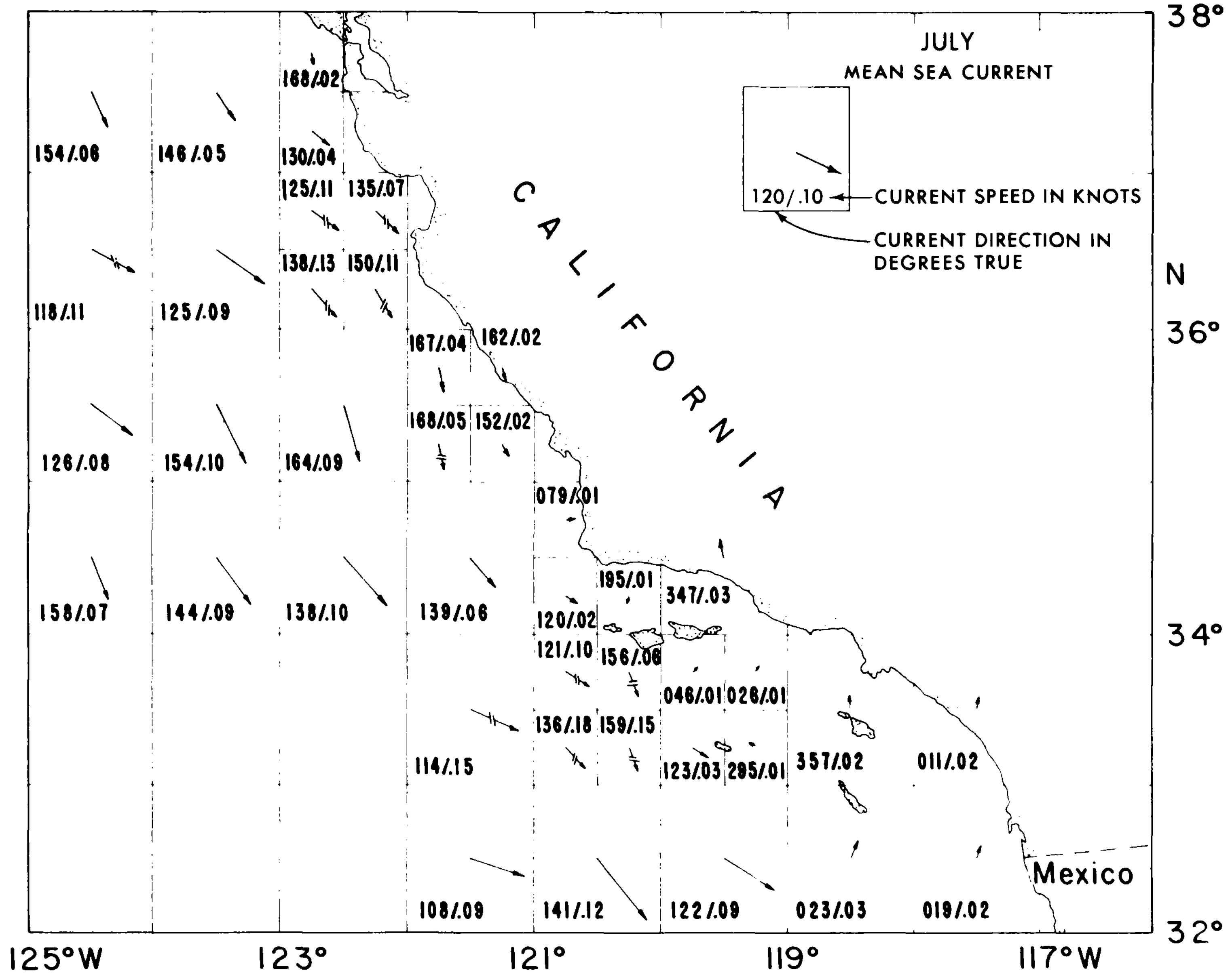
157/.10
120/.07
128/.07
140/.13
132/.13
097/.06
098/.07
133/.04
151/.05
140/.17
132/.09
127/.05
087/.05
135/.06
146/.11
108/.06
145/06
163/10
095/.08


JULY
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
38°
36°
N
34°
32°
125°W
123°
121°
119°
117°W
168/.02
154/.06
146/.05
130/.04
125/.11
135/.07
138/.13
150/.11
118/.11
125/.09
167/.04
162/.02
168/.05
152/.02
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164/.09
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195/.01
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158/.07
144/.09
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120/.02
121/.10
156/.06
046/.01
026/.01
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114/.15
123/.03
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011/.02
108/.09
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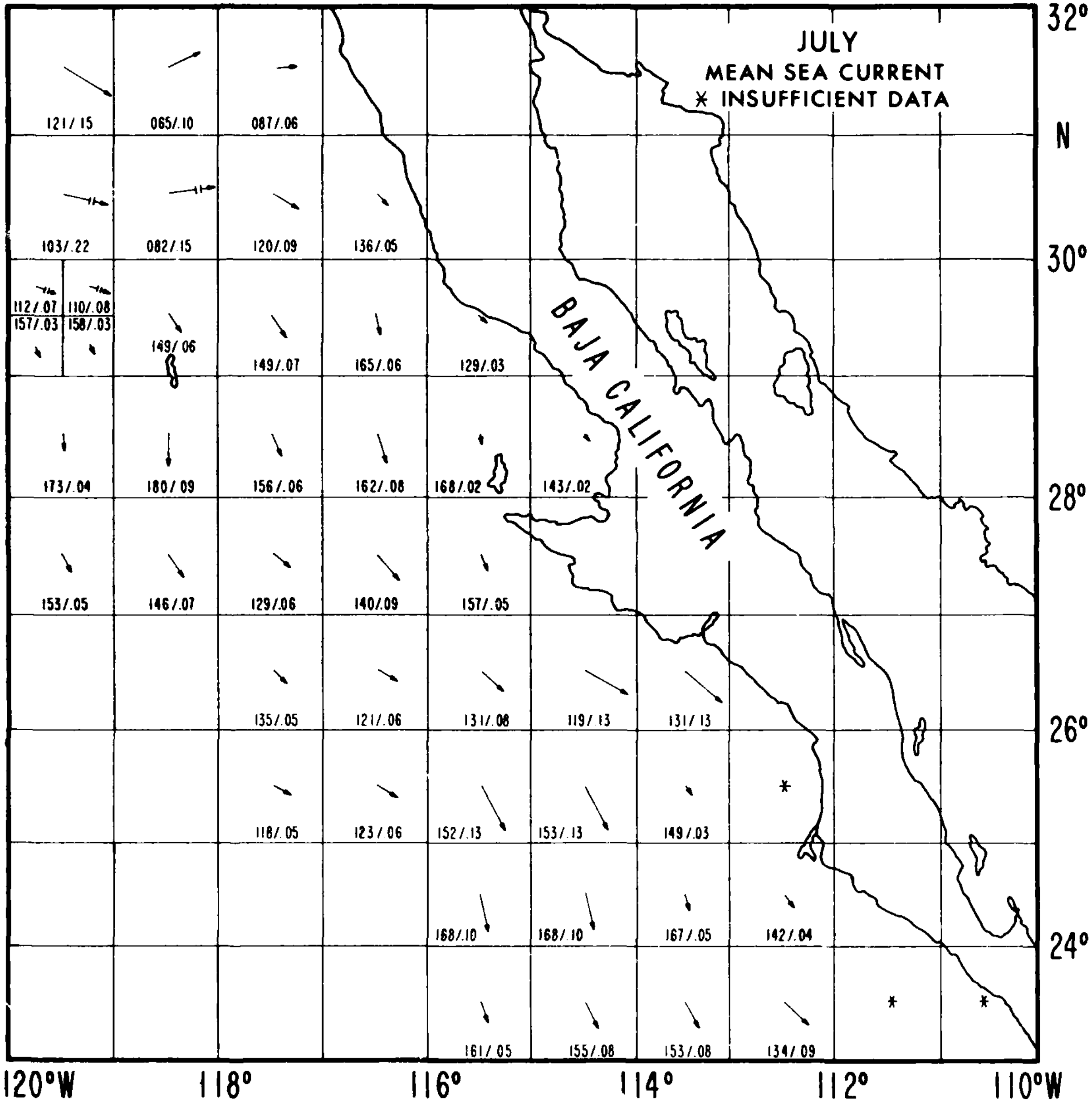
122/.09
023/.03
019/.02


JULY
MEAN SEA CURRENT
* INSUFFICIENT DATA
BAJA CALIFORNIA
32°
N
30°
28°
26°
24°
120°W
118°
116°
114°
112°
110°W
121/.15
065/.10
087/.06
103/.22
082/.15
120/.09
136/.05
112/.07
110/.08
157/.03
158/.03
149/.06
149/.07
165/.06
129/.03
173/.04
180/.09
156/.06
162/.08
168/.02
143/.02
153/.05
146/.07
129/.06
140/.09
157/.05
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121/.06
131/.08
119/.13
131/.13
118/.05
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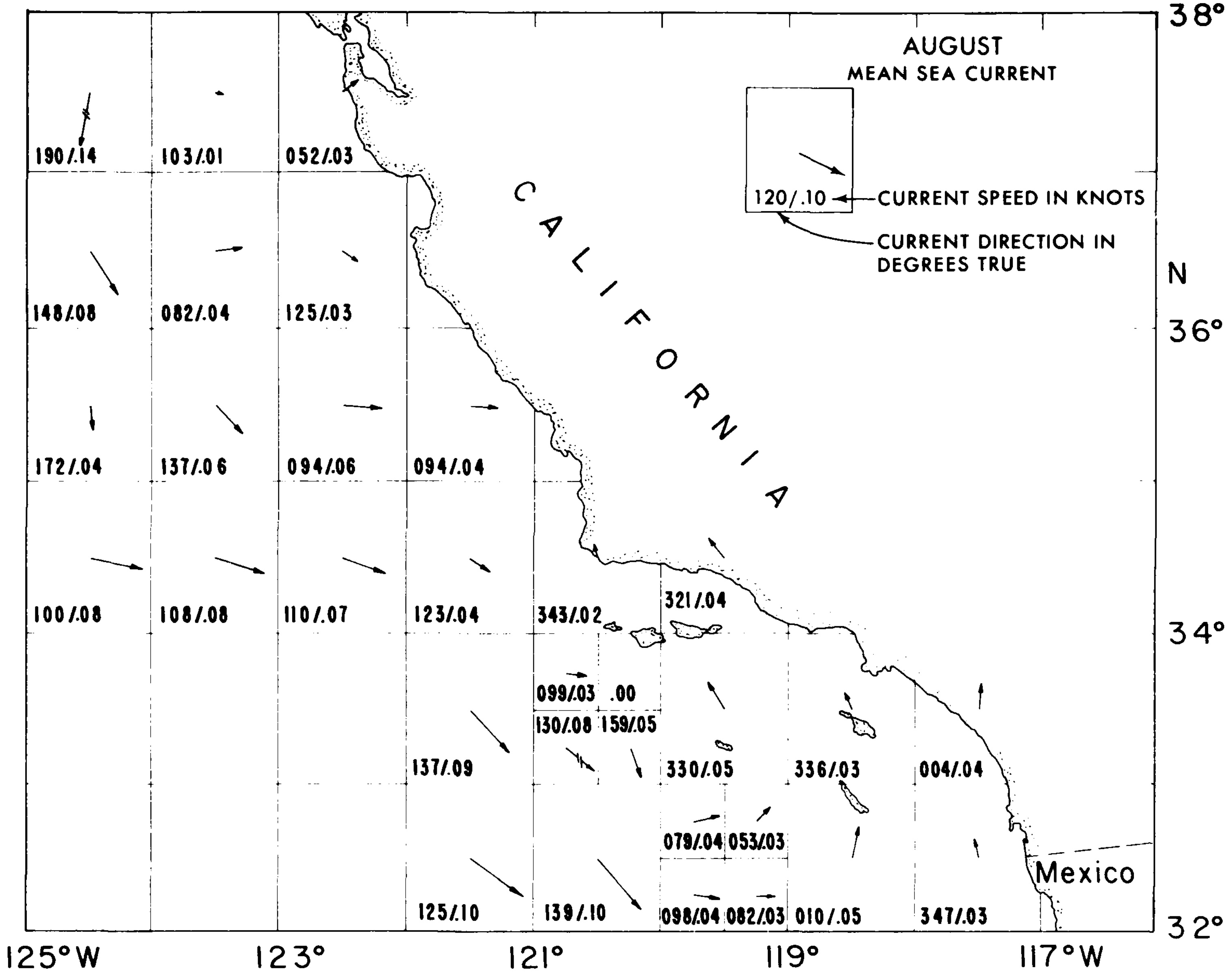
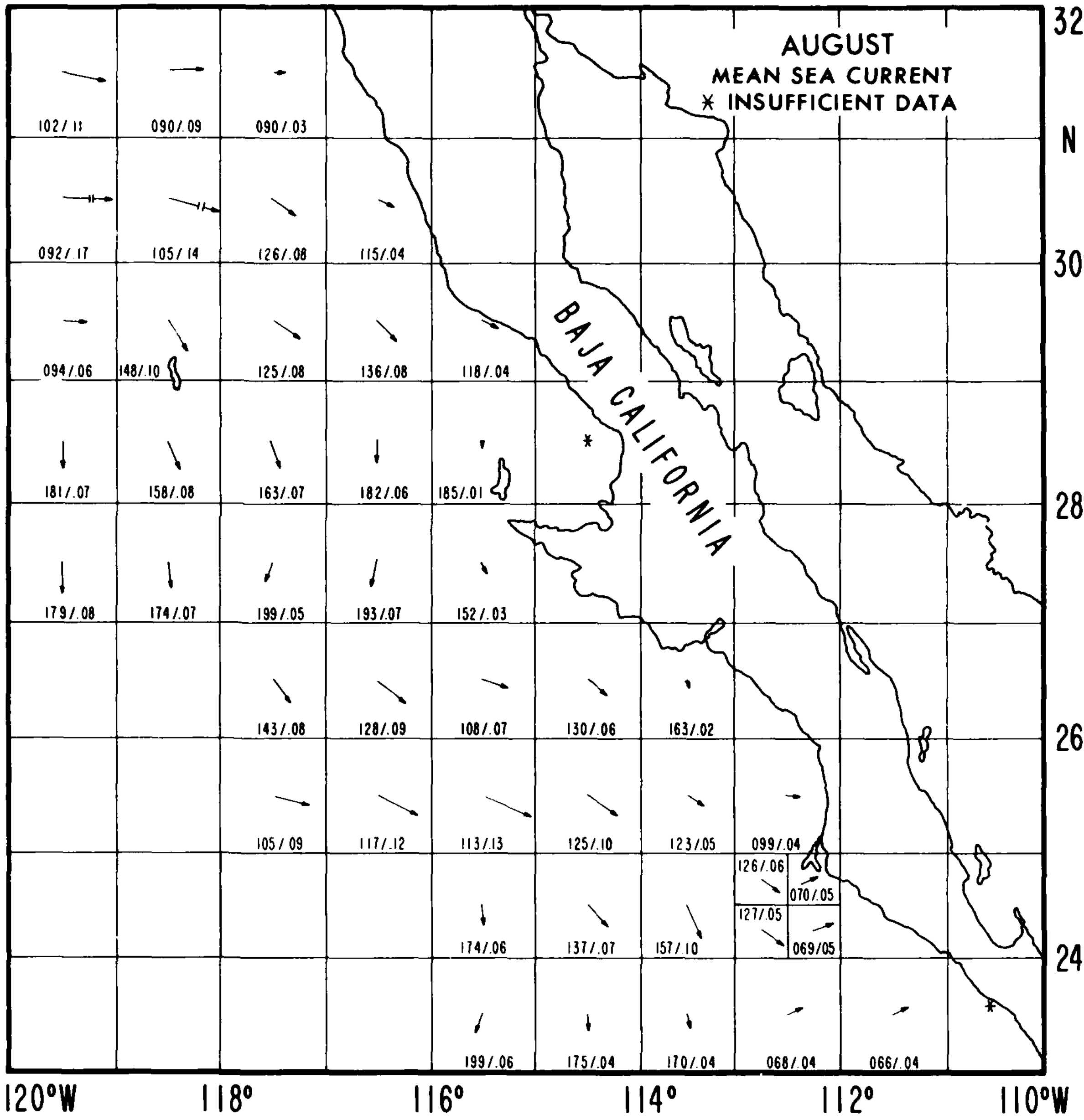
168/.10
168/.10
167/.05
142/.04
161/.05
155/.08
153/.08
134/.09


AUGUST
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
190/.14
103/.01
052/.03
148/.08
082/.04
125/.03
172/.04
137/.06
094/.06
094/.04
100/.08
108/.08
110/.07
123/.04
343/.02
321/.04
099/.03
.00
130/.08
159/.05
137/.09
330/.05
336/.03
004/.04
079/.04
053/.03
125/.10
139/.10
098/.04
082/.03
010/.05
347/.03
38°
N
36°
34°
32°
125°W
123°
121°
119°
117°W


AUGUST
MEAN SEA CURRENT
* INSUFFICIENT DATA
BAJA CALIFORNIA
32°
N
30°
28°
26°
24°
120°W
118°
116°
114°
112°
110°W
102/.11
090/.09
090/.03
092/.17
105/.14
126/.08
115/.04
094/.06
148/.10
125/.08
136/.08
118/.04
181/.07
158/.08
163/.07
182/.06
185/.01
179/.08
174/.07
199/.05
193/.07
152/.03
143/.08
128/.09
108/.07
130/.06
163/.02
105/.09
117/.12
113/.13
125/.10
123/.05
099/.04
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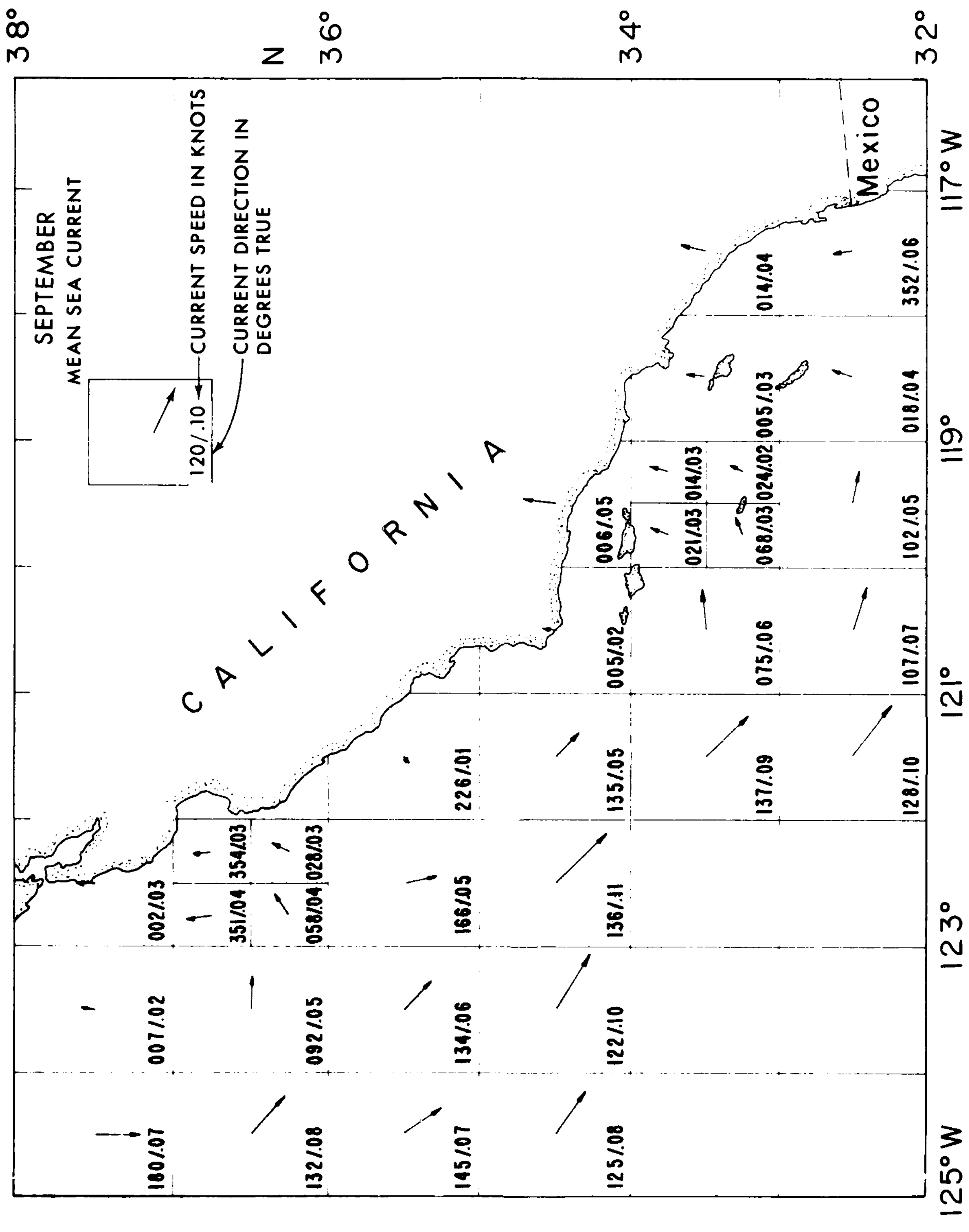
070/.05
127/.05
069/.05
174/.06
137/.07
157/.10
199/.06
175/.04
170/.04
068/.04
066/.04


SEPTEMBER
MEAN SEA CURRENT
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
120/.10
CALIFORNIA
Mexico
38°
36°
N
34°
32°
117°W
119°
121°
123°
125°W
180/.07
132/.08
145/.07
125/.08
007/.02
092/.05
134/.06
122/.10
002/.03
351/.04
354/.03
058/.04
028/.03
166/.05
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135/.05
137/.09
128/.10
005/.02
075/.06
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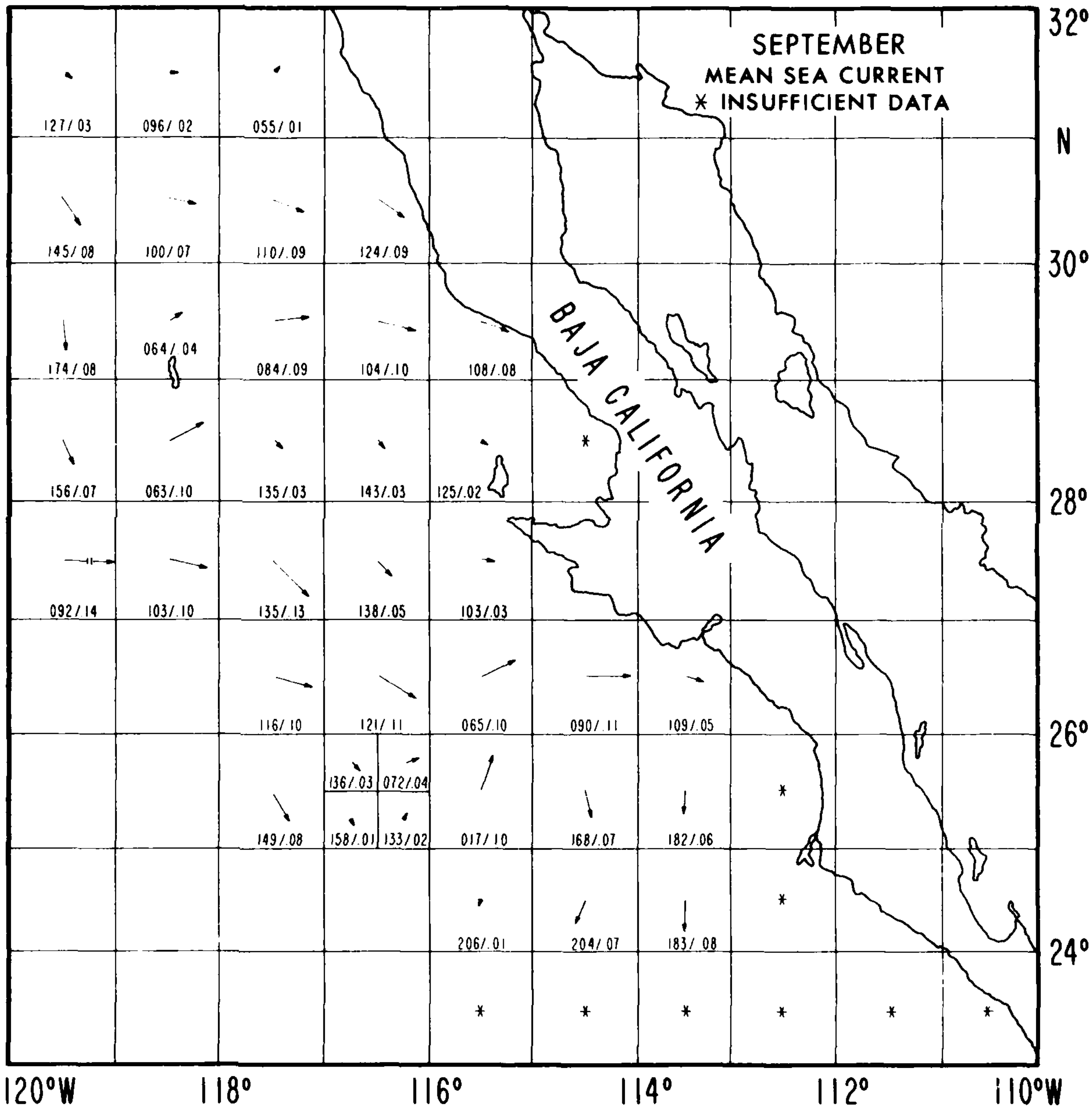
006/.05
021/.03
014/.03
068/.03
024/.02
102/.05
005/.03
018/.04
014/.04
352/.06



SEPTEMBER
MEAN SEA CURRENT
* INSUFFICIENT DATA

AD-A137 698 CLIMATIC STUDY OF THE SOUTHERN CALIFORNIA OPERATING AREA NEAR COASTAL ZONE(U) NAVAL OCEANOGRAPHY COMMAND DETACHMENT ASHEVILLE NC OCT 83 3/3

UNCLASSIFIED F/G 4/2 NL

END

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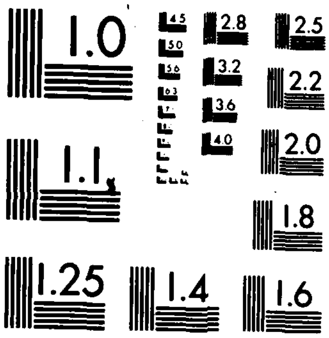
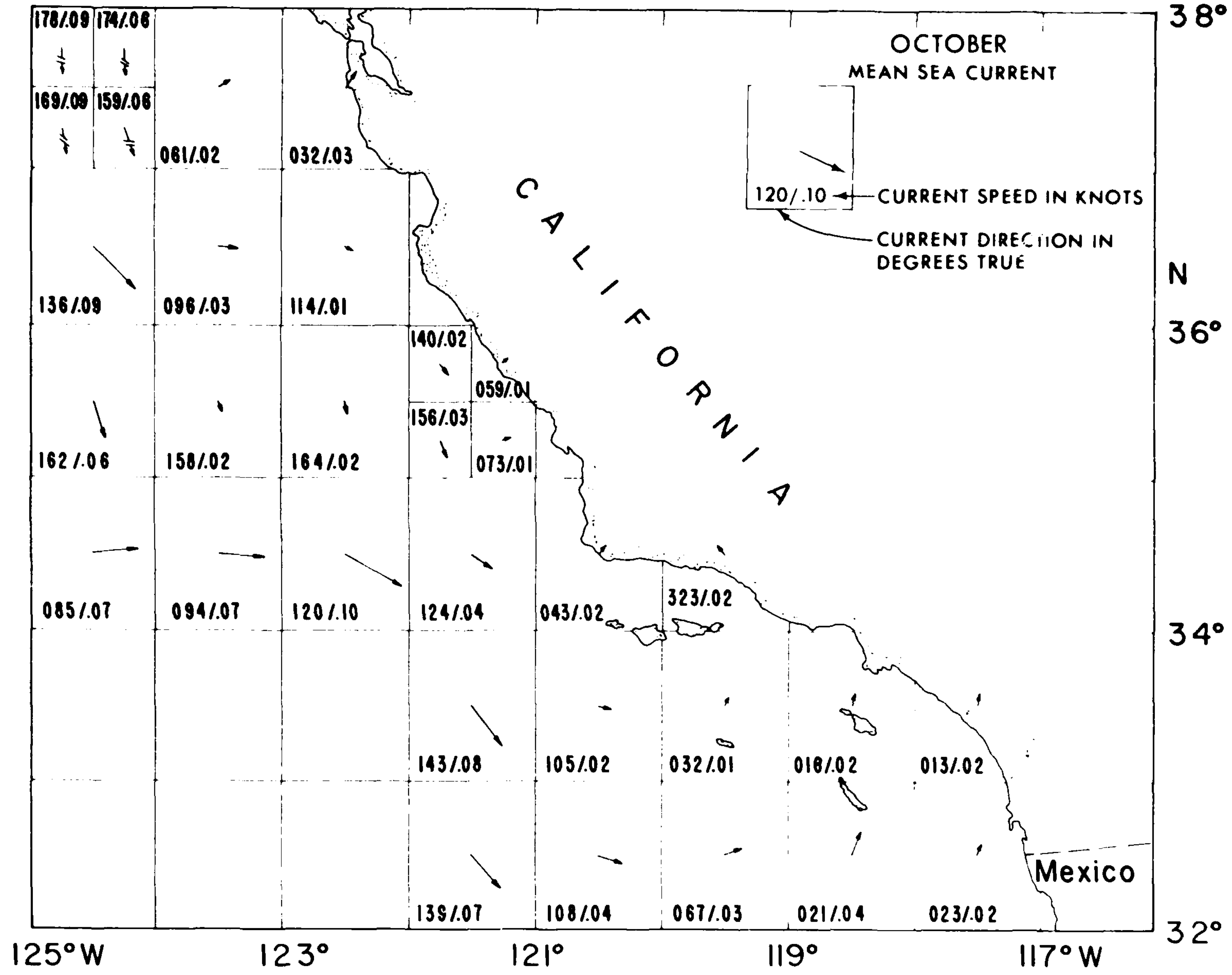
DTIC



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A


OCTOBER
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
38°
N
36°
34°
32°
125°W
123°
121°
119°
117°W
178/.09
174/.06
169/.09
159/.06
061/.02
032/.03
136/.09
096/.03
114/.01
140/.02
059/.01
156/.03
162/.06
158/.02
164/.02
073/.01
085/.07
094/.07
120/.10
124/.04
043/.02
323/.02
143/.08
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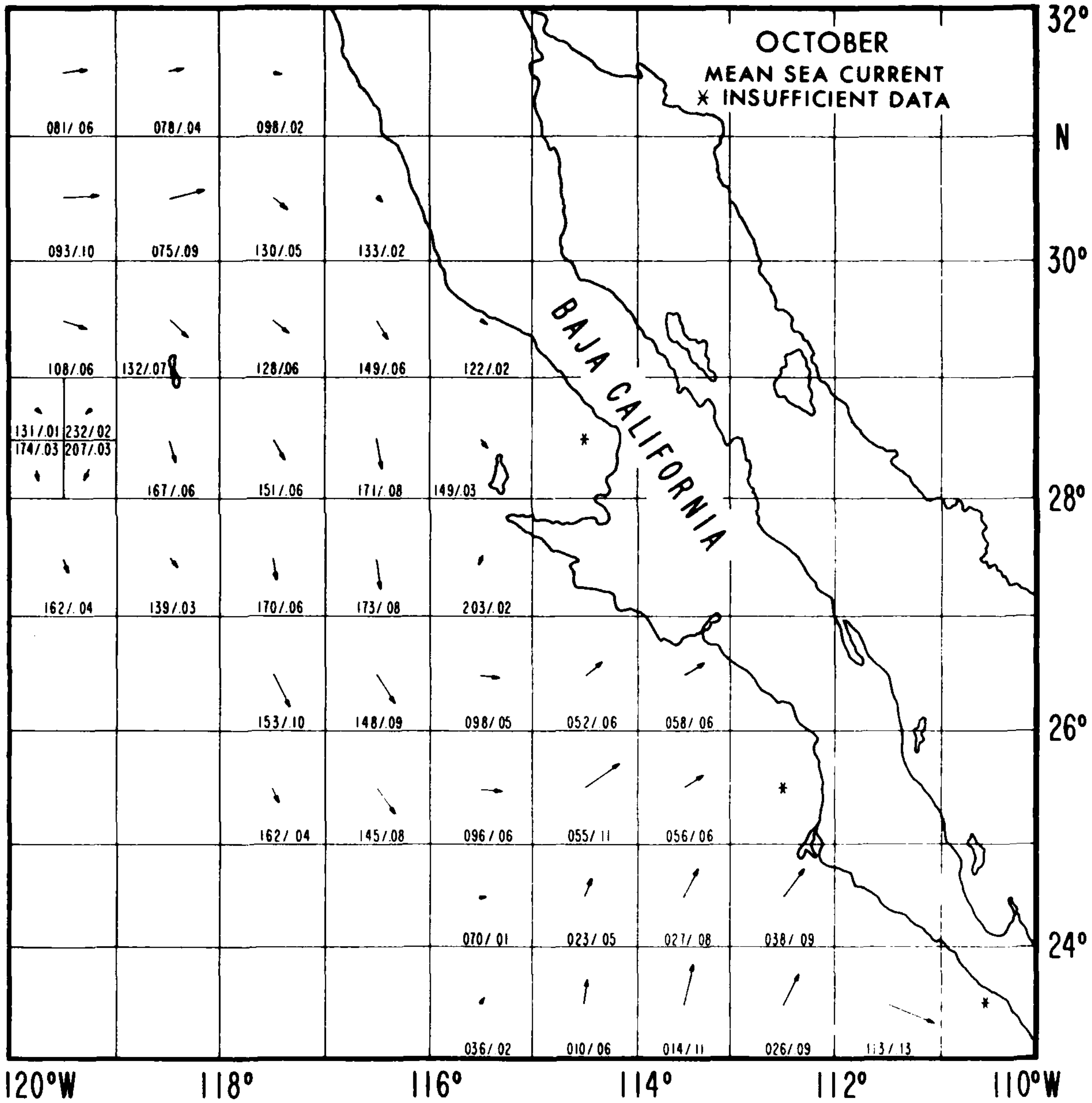
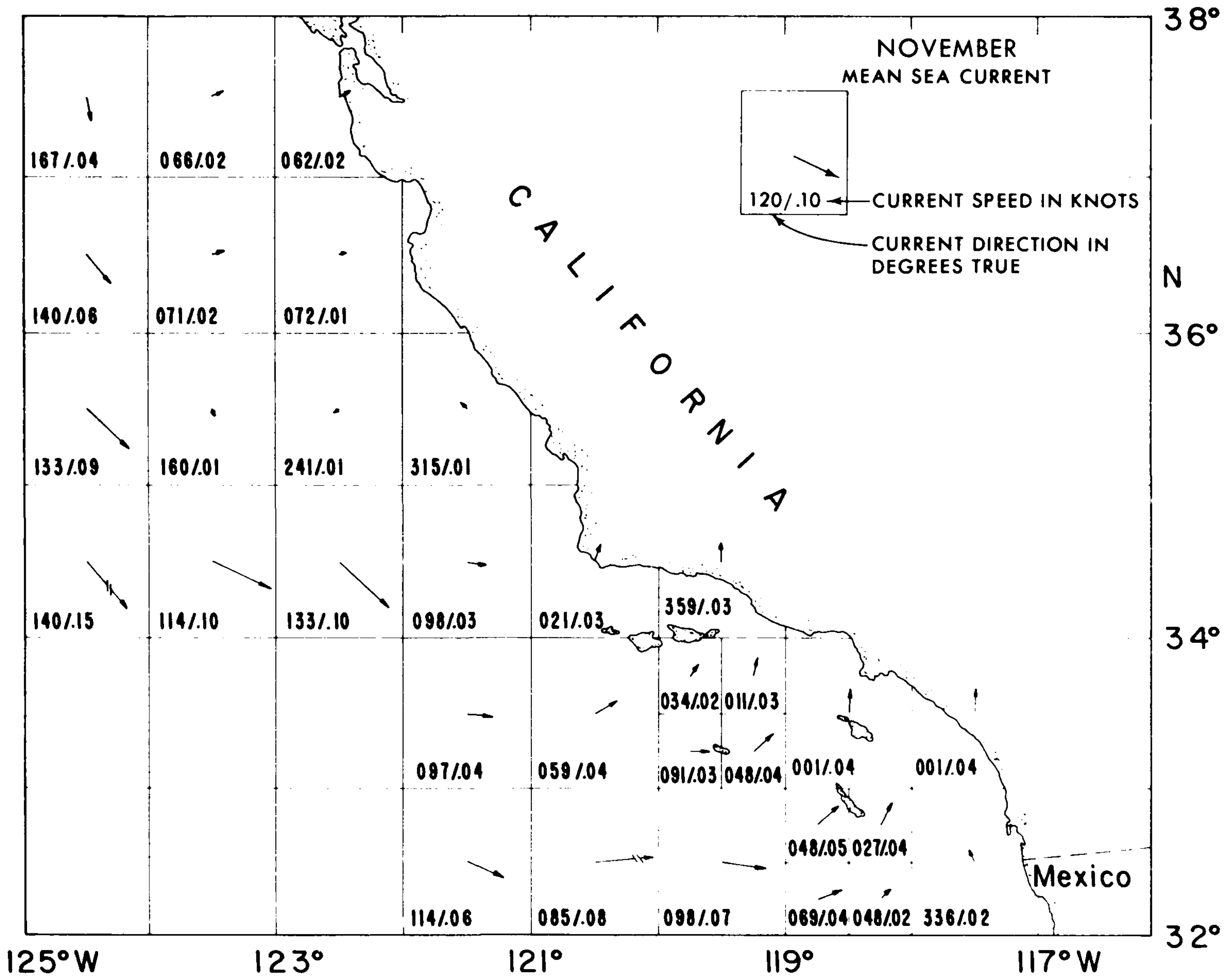
032/.01
018/.02
013/.02
139/.07
108/.04
067/.03
021/.04
023/.02



OCTOBER

MEAN SEA CURRENT

* INSUFFICIENT DATA


NOVEMBER
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
38°
N
36°
34°
32°
125°W
123°
121°
119°
117°W
167/.04
066/.02
062/.02
140/.06
071/.02
072/.01
133/.09
160/.01
241/.01
315/.01
140/.15
114/.10
133/.10
098/.03
021/.03
359/.03
034/.02
011/.03
097/.04
059/.04
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001/.04
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027/.04
114/.06
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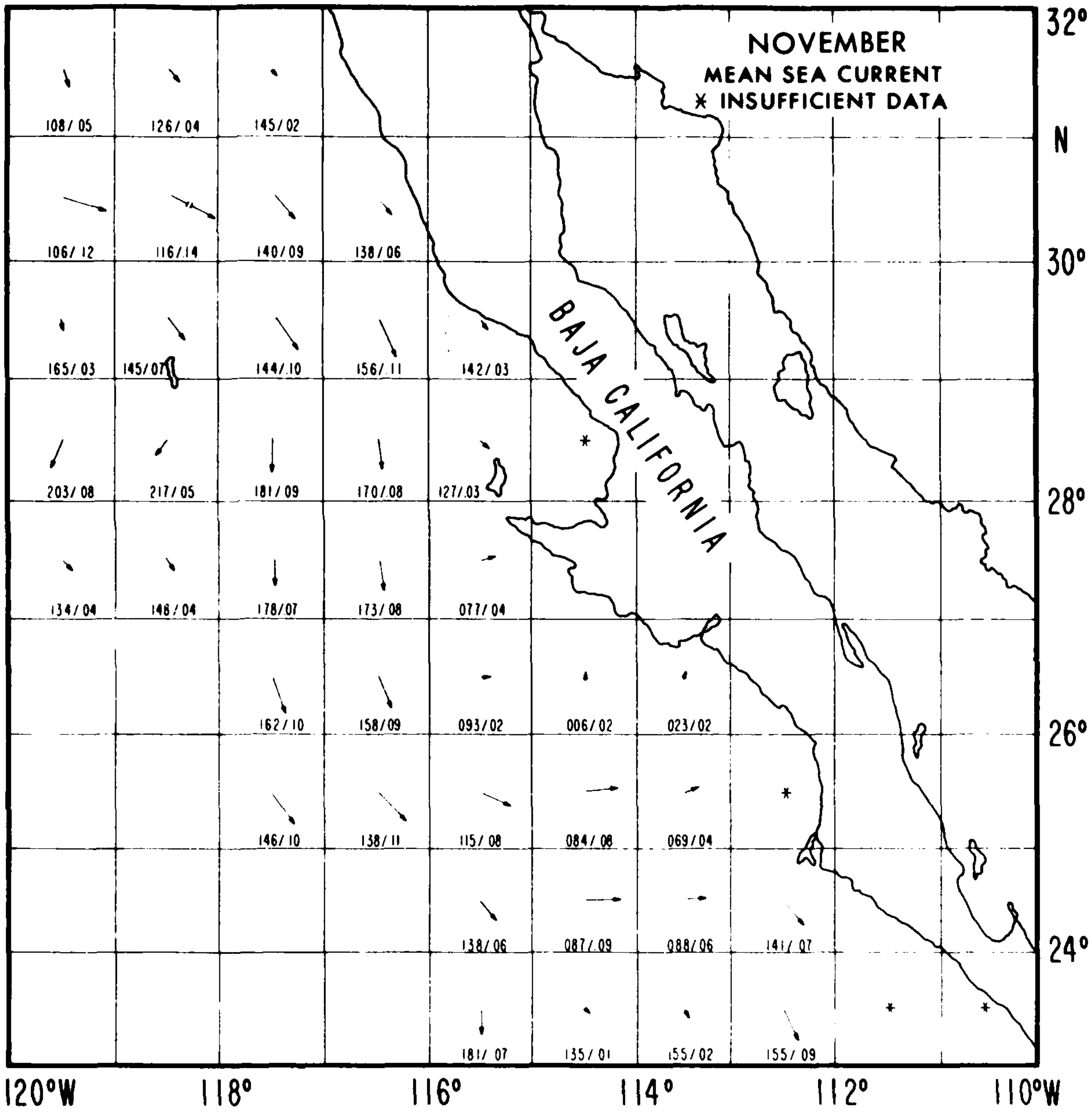
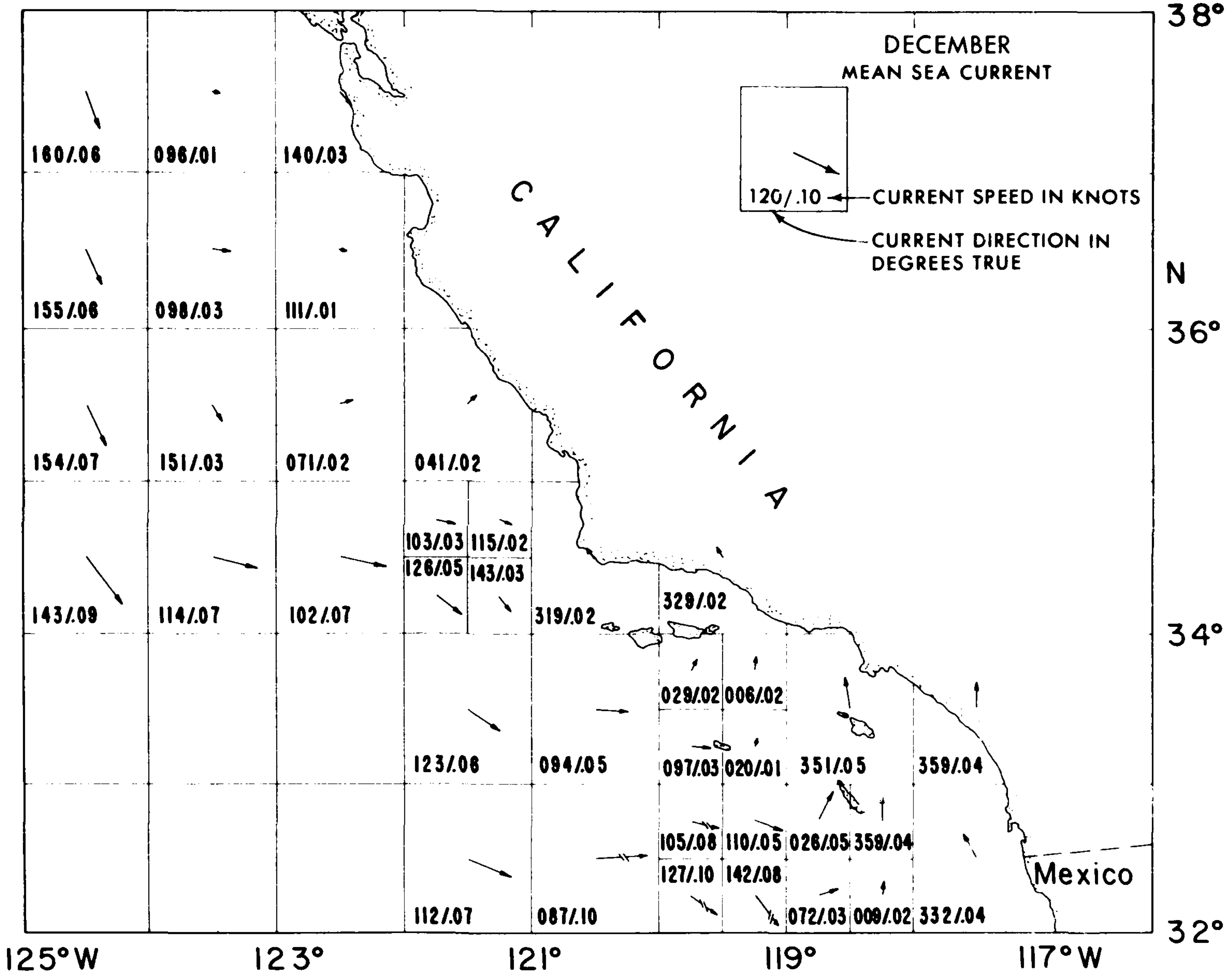
048/.02
336/.02


NOVEMBER
MEAN SEA CURRENT
* INSUFFICIENT DATA
N
BAJA CALIFORNIA
32°
30°
28°
26°
24°
120°W
118°
116°
114°
112°
110°W
108/05
126/04
145/02
106/12
116/14
140/09
138/06
165/03
145/07
144/10
156/11
142/03
203/08
217/05
181/09
170/08
127/03
134/04
148/04
178/07
173/08
077/04
162/10
158/09
093/02
006/02
023/02
146/10
138/11
115/08
084/08
069/04
138/06
087/09
088/06
141/07
181/07
135/01
155/02
155/09
*


DECEMBER
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
N
38°
36°
34°
32°
125°W
123°
121°
119°
117°W
160/.06
096/.01
140/.03
155/.06
098/.03
111/.01
154/.07
151/.03
071/.02
041/.02
103/.03
115/.02
126/.05
143/.03
143/.09
114/.07
102/.07
319/.02
329/.02
029/.02
006/.02
123/.06
094/.05
097/.03
020/.01
351/.05
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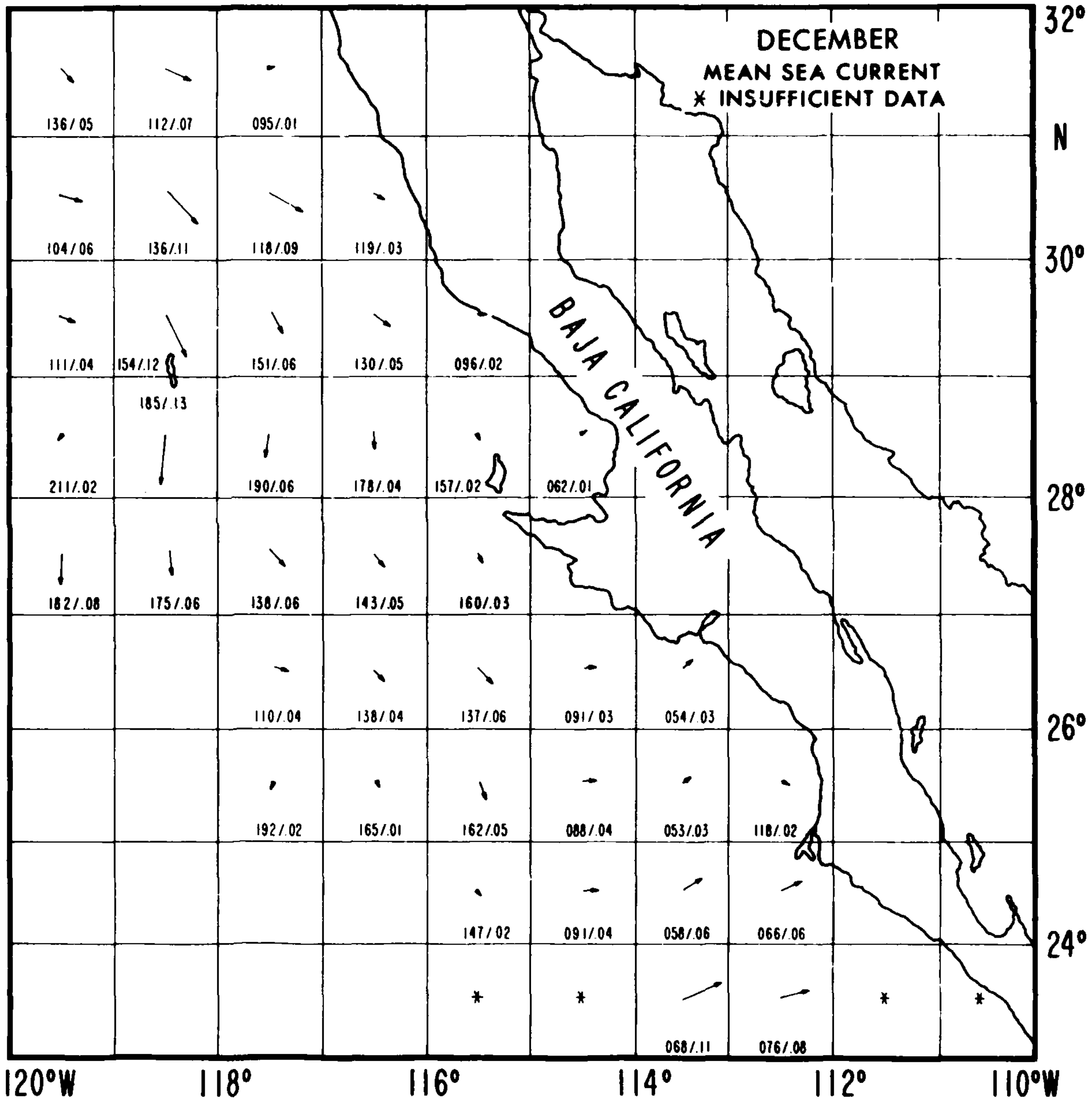
359/.04
127/.10
142/.08
112/.07
087/.10
072/.03
009/.02
332/.04


DECEMBER
MEAN SEA CURRENT
* INSUFFICIENT DATA
BAJA CALIFORNIA
32°
N
30°
28°
26°
24°
120°W
118°
116°
114°
112°
110°W
136/05
112/07
095/01
104/06
136/11
118/09
119/03
111/04
154/12
151/06
130/05
096/02
185/13
211/02
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178/04
157/02
062/01
182/08
175/06
138/06
143/05
160/03
110/04
138/04
137/06
091/03
054/03
192/02
165/01
162/05
088/04
053/03
118/02
147/02
091/04
058/06
066/06
*
*
068/11
076/08
*
*

```
PREPARED BY: NOCD ASHEVILLE          STATION NAME: EL TORO, CALIFORNIA                  PERIOD: APR 41-DEC 82          STN NUMBER: [illegible]
SEPTEMBER     1983                   LOCATION     : N33 40 W117 44                      ELEV  :        383             WBAN #    : [illegible]
                                                                                                                       WMO #     :
                                                                          VAP
                                                                           P                                 MEAN NUMBER OF DAYS  OCCURRENCE [illegible]
                                                                           R                                                       T     V
                                                                           E                                                       H     S
                                                                           S                              MEAN  PRECIP             DS    B
   TEMPERATURE DEG F        PRECIPITATION  INCHES    SNOWFALL RELATIVE     S DEW PRESS SFC WINDS    AMT   INCHES    SNOWFALL  NT     Y  MAX        MIN
          MEAN  EXTREMES    M O N T H          MAX  MN MAX MAX  HUM       IN PT   ALT PVLG  SPEED   CLD  .01  .5   .1  1.5  RM  FOG TEMP  F    TEMP
     DAILY  MON                                 24          24   LST      OF DEG FEET DRCTN MN MAX  IN    OR  OR   OR  OR   ES   <=   >=   >   <= <=
    MAX MIN         MAX  MIN  MEAN   MAX  MIN  HRS          HR  04 13     HG  F 99.95%      KNOTS TENTH GTR GTR  GTR GTR  R   1/2  90   75  4?  32
JAN 64  45  55   93   25   2.5   8.9  .0  5.2    #   1   1  66 50  .25 40   600   E     4  62   5     6   2    #   0    #  11    #   4  17   1
FEB 66  45  56   94   30   2.2  11.7   #  3.0    #   #   #  72 51  .27 42   600   E     4  65   5     5   1    0   0    #  10    #   4  14   #
MAR 67  46  57   90   32   2.1   7.8   #  2.5    #   #   #  77 55  .29 44   650   E     4  53   5     6   1    0   0    1  10    #   4  11   #
APR 70  49  60  101   37   1.1   5.4   #  2.2    0   0   0  76 49  .31 46   550   E     4  51   5     4   1    0   0    #  10    1   7   7   #
MAY 72  53  63  101   39    .2   1.2   #   .8    0   0   0  79 54  .36 50   600   W     4  70   6     3   #    0   0    #  12    1   9   4   0
JUN 77  57  67  107   44    .1    .3  .0   .3    0   0   0  79 50  .42 54   600   W     4  75   5     1   0    0   0    #  15    1  14   #   0
JUL 82  60  72  108   48     #    .3  .0   .3    0   0   0  79 49  .49 58   550   W     4  47   4     #   0    0   0    #  16    3  32   0   0
AUG 83  61  72  103   47    .1   3.1  .0  2.6    0   0   0  80 52  .50 59   600   W     4  36   4     #   #    0   0    #  18    4  32   0   0
SEP 82  60  71  116   44    .2   2.2  .0  1.3    0   0   0  77 50  .47 57   600   W     4  43   5     1   #    0   0    #  16    4  26   #   0
OCT 77  55  66  108   38    .2   1.5   #   .7    0   0   0  72 48  .37 51   550   W     4  45   5     2   #    0   0    1  14    3  17   1   0
NOV 71  50  61   97   35   1.4   6.7  .0  2.8    0   0   #  65 44  .28 43   600   E     4  63   4     4   1    0   0    #  12    1   9   7   0
DEC 66  46  56   93   28   1.7   5.3   #  2.4    #   #   #  62 45  .24 39   600   E     4  60   4     5   1    0   0    #  11    #   4  15   #
ANN 73  52  63  116   25  11.8  11.7  .0  5.2    #   1   1  74 50  .35 49   650   W     4  70   5    37   7    #   0    2 157   18 162  76   1
EYR 38  38  38   38   38    38    38  38   38   37  37  37   9  9    9  9    10   10    10  38   9    36  38   37  37   36  36   38  38  38  36
REMARKS: *DATA NOT AVAILABLE. # LESS THAN 0.5DAY,0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE.
         THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES IT IS EXCEEDED ONLY 0.05% OF THE TIME.
         EYR MEANS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE
         COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).


FLYING WEA % HRS LST   JAN    FEB    MAR    APR    MAY    JUN    JUL    AUG    SEP    OCT    NOV    DEC    ANN    EYR
 CEILING         01     25     29     30     32     61     53     45     44     45     42     26     25     38     10
 LESS 5000       04     27     33     30     36     66     63     60     62     56     48     29     32     45     10
 FT AND/OR       07     29     32     35     41     70     66     67     72     61     52     28     32     49     10
 VISIBILITY      10     27     38     39     38     59     42     32     34     46     42     26     30     37     10
 LESS 5 MI       13     33     36     35     29     41     25      8     15     27     35     25     31     26     10
                 16     28     28     29     23     33     14      6      9     23     24     21     29     22     10
                 19     17     23     25     22     33     19      5     10     21     21     17     23     20     10
                 22     23     24     26     29     46     37     20     27     32     31     24     26 [illegible] 10
             ALL HRS    26     30     31     32     51     40     29     34     39     37     25     26 [illegible] 10

 CEILING         01     16     21     18     26     52     51     43     42     40     35     19     17     32     10
 LESS 3000       04     16     23     22     32     56     60     58     59     50     40     16     21     36     10
 FT AND/OR       07     20     24     24     31     59     62     61     64     52     42     21     23     40     10
 VISIBILITY      10     17     22     26     23     43     27      8     13     27     24     17     22     22     10
 LESS 3 MI       13     18     21     20     11     35     12      2      4     13     15     14     16     14     10
                 16     13     14     17     10     13      7      1      3     10     10      9     12     10     10
                 19     12     14     15     12     22     14      3      6     15     10     10     13     12     10
                 22     13     17     16     21     39     32     19     25     26     25     17     16     22     10
             ALL HRS    16     20     20     21     39     33     24     27     29     25     16     17     24     10

 CEILING         01      7     12      5      9     14     19     13     13     14     20      9     10     12     10
 LESS 1000       04      7     11      7     11     18     29     27     27     22     23     10     13     17     10
 FT AND/OR       07      9     13      7     10     16     25     24     29     26     25     13     13     16     10
 VISIBILITY      10      7      8      4      3      3      5      1      2      7     15     11     11      6     10
 LESS 3 MI       13      6      8      3      1      1      1      1      1      3      9      8     10      4     10
                 16      5      6      2      0      1      0      0      1      2      4      4      9      3     10
                 19      4      5      2      1      2      1      0      1      2      3      3      7      3     10
                 22      4      9      4      5      9      9      1      4      6     11      7      8      6     10
             ALL HRS     6      9      4      5      8     11      8     10     10     14      8     10      9     10

 CEILING         01      2      5      2      4      6      3      1      3      4     10      4      6      4     10
 LESS 500        04      3      5      3      5      7     10      7     11      7     13      6      6      7     10
 FT AND/OR       07      5      6      3      4      6      5      6     10      9     13      8      4      7     10
 VISIBILITY      10      3      3      1      0      0      0      0      0      0      1      3      3      1     10
 LESS 1 MI       13      1      0      0      0      0      0      0      0      0      0      0      0      0     10
                 16      0      0      0      0      0      0      0      0      0      0      0      1      0     10
                 19      1      0      0      0      0      0      0      0      0      0      0      1      0     10
                 22      1      3      1      0      1      1      0      0      0      2      3      2      1     10
             ALL HRS     2      3      1      2      2      2      2      3      3      3      3      3      3     10

 CEILING         01      1      3      2      1      2      1      0      0      1      3      2      4      2     10
 LESS 200        04      2      4      2      3      2      5      2      5      3     11      4      4      4     10
 FT AND/OR       07      3      5      2      2      2      1      2      4      5     10      7      3      4     10
 VISIBILITY      10      1      2      0      0      0      0      0      0      0      0      1      2      1     10
 LESS 1/2 MI     13      0      0      0      0      0      0      0      0      0      0      0      0      0     10
                 16      0      0      0      0      0      0      0      0      0      0      0      0      0     10
                 19      0      0      0      0      0      0      0      0      0      0      0      0      0     10
                 22      1      1      0      0      0      0      0      0      0      1      1      2      1     10
             ALL HRS     1      2      1      1      1      1      0      1      1      4      2      2      1     10
```

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PREPARED BY: NCDC ASHEVILLE      STATION NAME: IMPERIAL BEACH, CALIFORNIA            PERIOD: APR 44-DEC 82          STN LTRS: NRS
SEPTEMBER    1982                LOCATION    : N32 34 W117 07                        ELEV  :      24                WBAN #  : 93115
                                                                                                                     WMO #   :
                                                              VAP
                                                               P                              MEAN NUMBER OF DAYS  OCCURRENCE OF:
                                                               R                                                T   V
                                                               E                                                H   E
                                                               S                   MEAN PRECIP                  UN  R
   TEMPERATURE DEG F     PRECIPITATION  INCHES    SNOWFALL RELATIVE  S DEW PRESS SFC WINDS   AMT  INCHES  SNOWFALL DE   Y  MAX       MIN
       MEAN   EXTREMES   M O N T H        MAX   MN MAX MAX   HUM    IN PT   ALT PVLG  SPEED  CLD  .01 .5  .1  1.5  RM  FOG DEG  F  F AND
    DAILY  MO                              24           24   LST    OF DEG FEET DRCTN MN MAX IN   OR  OR  OR  OR  ST   <   >   >   < <
   MAX MIN      MAX  MIN  MEAN   MAX  MIN  HRS          HR  07 13   HG  F  99.95%      KNOTS TENTH GTR GTR GTR GTR  S  7MI  90  75  55 40
JAN 63  44  53  86   26   1.5   5.9   #   2.1   0   0   0  73 62  .31 46   250   E   6  49   6    6   1   0   0   0  14   0   2  29  7
FEB 64  47  56  87   32   1.0   3.1   #   1.1   0   0   #  73 65  .34 48   250   W   6  46   4    5   1   0   0   #  12   0   1  26  3
MAR 64  49  57  93   33   1.2   3.2   #   1.6   0   0   #  77 63  .34 48   250   W   7  44   5    6   #   0   0   #  12   #   1  29  2
APR 66  52  59  90   34    .7   2.2   #   1.2   0   0   0  72 62  .35 49   150   W   6  48   4    4   #   0   0   #  11   #   1  23  #
MAY 67  56  62  92   44    .2   1.2  .0   1.0   0   0   0  75 64  .40 53   200   W   6  37   7    2   #   0   0   0   8   #   1  17  0
JUN 69  59  64  94   46    .1    .5  .0    .4   0   0   0  77 67  .47 57   200   W   6  28   6    1   0   0   0   #  13   #   2   4  0
JUL 72  62  68  96   52     #    .8  .0    .5   0   0   0  81 67  .52 60   200   W   5  26   6    #   0   0   0   #  15   #   7   1  0
AUG 74  64  69  97   53    .1   2.1  .0   1.4   0   0   0  83 68  .54 61   250   W   6  32   6    #   #   0   0   #  15   #  13   #  0
SEP 74  62  68 105   51    .2   2.3  .0   1.1   0   0   0  79 66  .52 60   200   W   5  38   5    1   #   0   0   #  16   #  12   2  0
OCT 72  57  64 105   35    .3   1.7   #    .6   0   0   0  76 66  .44 55   200   W   5  41   5    2   #   0   0   #  17   1   6  12  #
NOV 68  50  59  97   35   1.1   6.4  .0   1.9   0   0   0  67 59  .34 48   250   W   5  51   4    4   1   0   0   #  14   #   4  25  1
DEC 64  46  56  87   30   1.0   4.4   #   1.4   #   #   #  66 58  .28 43   250   E   5  44   4    4   1   0   0   #  15   0   2  29  5
ANN 68  54  61 109   26   7.4   6.4  .0   2.1   #   #   #  75 64  .39 52   250   W   6  51   5   35   4   0   0   # 162   1  53 197 18
EYR 29  29  29  29   29    29    29  29    29  29  29  29  10 10   10 10    10  10  10  28  10   29  29  29  29   2  23  29  29  29 29
REMARKS: *DATA NOT AVAILABLE, # LESS THAN 0.5DAY,0.5 OR 0.05 INCH, 0 0.5 PERCENT AS APPLICABLE.
         THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES I IS EXCEEDED ONLY 0.05% OF THE TIME.
         EYR MEANS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBR OF YEARS UTILIZED IN THE
         COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).

FLYING WEA % HRS LST   JAN    FEB    MAR    APR    MAY    JUN    JUL    AUG    SEP    OCT    NOV    DEC    ANN    EYR
 CEILING         01                                                                                                0
 LESS 5000       04                                                                                                0
 FT AND/OR       07     34     37     43     57     79     84     86     88     75     63     34     31     59     10
 VISIBILITY      10     24     31  [illegible] 35   51     49     48     41     51     45     33     27     39     10
 LESS 5 MI       13     25     25     23     13     35     31     28     21     33     33     25     25     27     10
                 16     22     21     21     21     41     37     21     20     26     27     16     22     24     10
                 19     29     30     26     31     54     41     28     27     35     29     29     33     33     10
                 22     36     37     36     33     62     50     37     45     44     46     36     44     43      7
             ALL HRS    29     29     32     33     53     49     43     41     45     41     27     29     37     10

 CEILING         01                                                                                                0
 LESS 3000       04                                                                                                0
 FT AND/OR       07     25     30     30     45     71     76     80     83     69     53     28     26     51     10
 VISIBILITY      10     15     22     21     27     43     39     37     33     37     32     21     18     29     10
 LESS 3 MI       13     15     17     14     11     27     25     20     14     24     17     16     15     18     10
                 16     13     16     15     17     37     28     18     16     20     16     13     16     18     10
                 19     19     23     12     24     50     40     25     25     28     20     22     23     27     10
                 22     26     24     29     31     56     47     31     43     39     43     25     33     36      7
             ALL HRS    18     22     21     25     46     43     36     36     36     30     20     21     29     10

 CEILING         01                                                                                                0
 LESS 1000       04                                                                                                0
 FT AND/OR       07      9     17     12     14     20     36     45     35     31     32     17     16     24     10
 VISIBILITY      10      5     10      5      6     11     16     18     16     14     19     11      9     12     10
 LESS 3 MI       13      3      6      4      2      4      7     10      5     10     12      7      8      7     10
                 16      4      7      4      3      7      6      8      4      6      7      6      8      6     10
                 19      4      8      2      4      9     12      9      8      5      6     10     12      7     10
                 22      5     11      3      3     10     10     11     10      7     15     10     17      9      7
             ALL HRS     5     10      6      5     10     15     18     14     13     16     10     11     11     10

 CEILING         01                                                                                                0
 LESS 200        04                                                                                                0
 FT AND/OR       07      1      5      3      3      1      1      1      3      4      7      4      6      3     10
 VISIBILITY      10      0      0      0      0      0      0      0      0      0      2      0      1      0     10
 LESS 1/2 MI     13      0      0      0      0      0      0      0      0      1      0      0      1      0     10
                 16      0      0      0      0      0      0      0      0      0      0      0      1      0     10
                 19      1      1      0      0      0      2      0      0      0      0      3      4      1     10
                 22      0      0      1      0      0      0      0      0      1      1      4      7      1      7
             ALL HRS     1      1      1      1      0      1      0      1      1      2      2      3      1     10

 CEILING         01                                                                                                0
 LESS 100        04                                                                                                0
 FT AND/OR       07      0      4      1      0      0      0      0      1      1      3      3      4      2     10
 VISIBILITY      10      0      0      0      0      0      0      0      0      0      0      0      0      0     10
 LESS 1/4 MI     13      0      0      0      0      0      0      0      0      0      0      0      1      0     10
                 16      0      0      0      0      0      0      0      0      0      0      0      1      0     10
                 19      0      1      0      0      0      1      0      0      0      0      2      3      1     10
                 22      0      0      1      0      0      0      0      0      1      0      2      5      1      7
             ALL HRS     0      1      0      0      0      0      0      0      0      1      1      2      0     10
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PREPARED BY: NCDC ASHEVILLE       STATION NAME: MIRAMAR, CALIFORNIA            PERIOD : APR 47-DEC 82         STN CTRS: KNKX
SEPTEMBER    1983                 LOCATION    : N32 52 W117 08                 ELEV   :      477             WBAN #  : 93107
                                                                                                               WMO #   :
                                                                   VAP
                                                                    P                                  MEAN NUMBER OF DAYS  OCCURRENCE OF:
                                                                    R                                                     T    V
                                                                    E                                                     H    E
                                                                    S                        MEAN  PRECIP                 US   R
 TEMPERATURE DEG F     PRECIPITATION  INCHES   SNOWFALL RELATIVE   S DEW PRESS SFC WINDS     AMT   INCHES   SNOWFALL      NT   Y  MAX        MIN
     MEAN   EXTREMES    M O N T H        MAX  MN MAX MAX  HUM     IN PT   ALT PVLG SPEED    CLD   .01 .5    .1  1.5     DM  FOG DEG   F     AND
   DAILY  MON                            24           24   LST    OF DEG FEET DRCTN MN MAX  IN    OR  OR    OR  OR      ES   <    >    >    < <
  MAX MIN       MAX  MIN  MEAN   MAX  MIN  HRS          HR  04 13  HG  F 99.95%     KNOTS  TENTH GTR GTR   GTR GTR      R   7MI  90   75   65 40
JAN 65  45  55  88   28   2.4    8.9   #   2.7   #   #   #  69 49 .25 40   650   E    4  40   5     7   2     0   0      #    9   0    4   31  7
FEB 66  46  56  93   34   1.7    7.2   #   1.6   0   0   0  71 49 .26 41   650   E    5  45   5     6   1     0   0      1    9   #    4   28  4
MAR 65  46  56  93   33   1.9    7.3   #   1.5   0   0   0  77 54 .28 43   700   E    5  43   5     7   1     0   0      1    9   #    3   31  2
APR 67  50  59  95   39   1.0    3.8   #   2.1   #   #   #  76 57 .30 45   650   W    4  46   5     5   #     0   0      #    9   #    5   30  1
MAY 70  54  62 109   42    .4    2.6   #   1.5   0   0   0  76 55 .35 49   650   W    4  44   7     3   #     0   0      #   10   #    5   31  0
JUN 74  57  66 105   46    .1     .8  .0    .4   0   0   0  77 51 .40 53   650   W    4  32   5     1   0     0   0      #   13   1   11   30  0
JUL 79  61  71 101   50     #     .2  .0    .1   0   0   0  79 52 .47 57   650   WNW  4  33   5     1   0     0   0      #   16   1   25   27  0
AUG 80  63  72  99   50    .1    1.4  .0    .6   0   0   0  80 57 .50 59   650   NW   4  28   5     #   #     0   0      #   14   2   27   23  0
SEP 80  61  71 111   49    .2    2.1  .0   1.1   0   0   0  77 52 .47 57   700   WNW  4  41   5     1   #     0   0      #   14   3   21   26  0
OCT 76  56  66 105   33    .4    2.1  .0   1.3   0   0   0  72 48 .36 50   600   E    4  33   5     2   #     0   0      1   17   2   15   30  0
NOV 71  50  61 100   34   1.1    5.7  .0   2.0   0   0   0  65 43 .27 42   650   E    4  50   4     5   1     0   0      #   10   1   10   30  1
DEC 67  46  57  89   26   1.5    5.0   #   2.3   #   #   #  66 42 .23 38   650   E    4  41   4     5   1     #   0      #    9   0    5   31  5
ANN 72  53  63 111   26  10.7    8.9  .0   2.7   #   #   #  74 50 .34 49   700   WNW  4  50   5    43   6     #   0      3  135  10  135  349 20
EYR 35  35  35  35   35    35     35  35    35  35  35  35  10 10  10 10    10   10   10  35  10    35  35    35  35     35   35  35   35   35 35
REMARKS: *DATA NOT AVAILABLE. # LESS THAN 0.5DAY,0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE.
         THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES IT IS EXCEEDED ONLY 0.05% OF THE TIME.
         EYR MEANS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE
         COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).
```

FLYING WEA %	HRS LST	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	EYR
CEILING	01	29	39	36	45	70	70	62	66	58	49	34	29	49	10
LESS 5000	04	31	36	43	47	72	77	76	82	68	52	30	26	53	10
FT AND/OR	07	28	36	36	48	76	73	73	79	69	50	29	25	52	10
VISIBILITY	10	25	33	40	39	58	35	19	24	35	36	23	21	32	10
LESS 5 MI	13	25	31	33	[illegible]	40	19	8	12	24	24	16	18	23	10
	16	25	28	31	31	37	18	7	11	22	25	19	22	22	10
	19	24	30	28	26	48	32	15	21	31	31	28	26	26	10
	22	28	36	32	39	63	50	38	46	50	43	30	29	40	10
	ALL HRS	27	33	35	36	58	47	38	43	45	37	27	25	35	10
CEILING	01	21	32	28	36	63	66	58	63	54	44	29	23	43	10
LESS 3000	04	23	29	32	36	66	75	74	80	61	46	25	20	47	10
FT AND/OR	07	21	28	26	41	66	66	68	76	58	44	22	20	45	10
VISIBILITY	10	18	21	30	29	40	26	10	12	22	7	16	14	22	10
LESS 3 MI	13	16	19	20	16	28	13	3	5	15	11	12	10	14	10
	16	17	19	20	15	29	14	5	6	15	13	11	12	15	10
	19	17	20	19	20	42	28	13	16	24	21	22	18	22	10
	22	21	28	22	31	57	48	35	43	44	37	26	20	34	10
	ALL HRS	19	24	25	28	49	42	33	38	37	30	20	17	30	10
CEILING	01	11	19	10	11	21	34	36	39	29	24	17	16	22	10
LESS 1000	04	13	18	13	11	24	46	52	54	36	27	15	12	27	10
FT AND/OR	07	12	17	12	13	23	36	44	47	33	27	13	14	24	10
VISIBILITY	10	7	10	5	3	7	5	2	3	5	6	6	5	5	10
LESS 3 MI	13	5	4	3	1	3	3	1	2	3	4	4	3	3	10
	16	5	7	4	1	2	3	1	2	3	6	6	6	4	10
	19	7	10	5	3	9	6	4	5	6	8	10	10	7	10
	22	10	13	6	7	18	21	17	19	19	20	14	13	15	10
	ALL HRS	9	12	7	6	13	19	20	21	17	15	11	10	13	10
CEILING	01	5	9	3	2	6	5	4	5	7	14	8	9	6	10
LESS 300	04	6	7	4	3	6	12	11	13	12	15	7	6	9	10
FT AND/OR	07	3	6	5	5	6	6	7	9	11	14	6	4	7	10
VISIBILITY	10	1	1	0	0	1	0	0	0	0	0	0	0	0	10
LESS 1 MI	13	1	0	0	0	0	0	0	0	0	0	0	0	0	10
	16	1	2	0	0	0	0	0	0	0	0	1	0	0	10
	19	1	3	0	0	0	0	1	0	0	3	3	4	1	10
	22	5	7	1	0	2	2	1	2	2	8	7	7	4	10
	ALL HRS	3	4	2	1	3	3	3	4	4	7	4	4	4	10
CEILING	01	3	6	2	1	1	2	1	2	2	8	5	5	3	10
LESS 100	04	1	6	3	2	3	5	4	5	5	7	6	3	4	10
FT AND/OR	07	1	5	2	2	2	1	1	3	5	6	4	2	3	10
VISIBILITY	10	1	0	0	0	0	0	0	0	0	0	0	0	0	10
LESS 1/4 MI	13	0	0	0	0	0	0	0	0	0	0	0	0	0	10
	16	0	0	0	0	0	0	0	0	0	0	0	0	0	10
	19	0	0	0	0	0	0	0	0	0	1	2	2	0	10
	22	2	5	0	0	0	1	0	1	0	6	3	5	2	10
	ALL HRS	1	3	1	1	1	1	1	1	2	4	3	2	2	10

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PREPARED BY: NCDC ASHEVILLE      STATION NAME: POINT MUGU, CALIFORNIA          PERIOD: JAN [illegible]-DEC [illegible]      STN LTRS: NTD
SEPTEMBER    198[illegible]       LOCATION    : N34 07 W119 07                  ELEV   :       12                WBAN #  : 93111
                                                                                                                  WMO #   : 72391
                                                                   VAP
                                                                    P                              MEAN NUMBER OF DAYS OCCURRENCE OF:
                                                                    R                                        T    V
                                                                    E                                        H    S
                                                                    S                   MEAN PRECIP          US   B
   TEMPERATURE DEG F      PRECIPITATION  INCHES   SNOWFALL RELATIVE S DEW PRESS SFC WINDS  AMT  INCHES  SNOWFALL NT   Y   MAX        MIN
       MEAN   EXTREMES    M O N T H        MAX   MN MAX MAX  HUM   IN PT  ALT PRVLG SPEED  CLD  .01 .5  .1  1.5 DM  FOG DEG  F = AND
    DAILY  MON                             24             24   LST  OF DEG FEET DRCTN MN MAX IN   OR  OR  OR  OR  ES   <   >    >   < <
    MAX MIN       MAX  MIN  MEAN   MAX  MIN HRS            HR  04 13 HG  F 99.95%      KNOTS TENTH GTR GTR GTR GTR R [illegible]MI 90 75 65 32
JAN 64  45  55  90  29  2.9  11.6  .0  3.3  0  #  #  70 58 .26 41  250  NE  5 61  5   6   2   0   0   1  11   #   3  31  1
FEB 64  45  55  89  27  2.5  13.8  .0  3.5  0  #  #  77 63 .29 44  250  W   5 49  5   6   2   0   0   1  12   0   3  28  #
MAR 63  46  55  86  33  1.9   7.3  #   2.0  0  0  0  80 62 .30 45  300  W   5 47  5   5   2   0   0   #  13   0   1  31  #
APR 65  47  56  99  36   .7   4.2  .0  1.3  0  0  0  83 64 .34 48  300  [illegible] 5 50  4   3   #   0   0   #  11   0   2  30  0
MAY 66  51  59  96  35   .1   1.0  #    .6  0  0  0  87 68 .39 52  200  W   5 44  5   1   #   0   0   0  16   #   1  31  0
JUN 69  55  62 100  39   #     .3  .0   .2  0  0  0  89 67 .44 55  250  W   4 35  5   1   0   0   0   #  19   #   2  30  0
JUL 71  57  64  98  43   #     .1  #    .1  0  0  0  91 69 .49 58  200  W   4 33  5   #   0   0   0   #  24   0   4  31  0
AUG 73  59  66  97  49   .1   1.0  .0  1.0     0  0  89 68 .50 59  250  W   4 25  5   #   #   0   0   #  24   0  10  30  0
SEP 73  56  66 100  44   .4   5.0  #   2.2  0  0  0  87 67 .49 58  250  W   4 40  5   1   #   0   0   1  21   1   9  29  0
OCT 72  53  63 104  33   .2    .7  #    .5  0  0  0  81 62 .40 53  200  W   4 43  5   1   #   0   0   #  19   1   6  31  #
NOV 68  46  58  98  35  1.9   6.4  #   2.7  0  0  0  69 54 .28 43  250  [illegible] 4 56  4   4   1   0   0   1  14   #   5  30  0
DEC 64  44  54  87  27  1.6   5.3  #   2.2  0  0  0  65 56 .25 40  200  NE  5 56  4   4   1   0   0   #  12   0   3  31  1
ANN 68  51  59 104  27 12.7  13.8  .0  3.5  #  #  #  81 63 .36 50  300  W   5 61  5  33   8   0   0   4 196   2  49 363  2
EYR 23  23  23  23  23   23    23  23   23 23 23 23  10 10  10 10   10  10 10 23 10  23  23  23  23  20  20  23  23  23 23
```

REMARKS: *DATA NOT AVAILABLE. # LESS THAN 0.5 DAY, 0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE.
THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES IT IS EXCEEDED ONLY 0.05% OF THE TIME.
EYR MEANS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE

COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).

FLYING WEA &	HRS LST	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	EYR
CEILING	01	29	31	26	28	44	40	45	55	52	45	29	32	38	10
LESS 5000	04	27	36	29	33	53	52	61	66	62	49	27	30	44	10
FT AND/OR	07	22	37	36	40	63	61	71	75	72	53	28	29	49	10
VISIBILITY	10	27	34	30	34	50	55	60	58	63	44	26	26	42	10
LESS 5 MI	13	27	31	26	23	43	40	48	41	43	34	25	26	34	10
	16	25	26	21	21	35	33	35	33	39	35	22	28	29	10
	19	23	30	21	25	38	29	30	35	39	32	23	26	29	10
	22	27	28	25	20	32	31	32	40	41	28	28	30	31	10
	ALL HRS	27	31	27	28	45	43	48	50	51	41	26	28	37	10
CEILING	01	22	23	20	24	38	37	38	49	43	38	23	23	32	10
LESS 3000	04	20	27	21	26	48	49	52	59	53	40	21	23	37	10
FT AND/OR	07	21	32	27	29	55	57	62	67	60	45	23	25	42	10
VISIBILITY	10	19	26	20	24	42	46	48	43	49	33	18	20	32	10
LESS 3 MI	13	21	18	15	12	33	34	33	29	34	21	14	18	24	10
	16	15	20	14	12	25	26	21	22	30	21	14	18	20	10
	19	16	21	12	17	26	24	20	29	32	26	16	19	22	10
	22	21	21	15	16	27	28	25	36	35	32	21	21	25	10
	ALL HRS	19	23	18	20	37	38	38	42	42	32	19	21	29	10
CEILING	01	11	15	8	13	24	28	33	42	34	29	16	18	23	10
LESS 1000	04	10	15	9	13	27	35	43	48	39	32	15	16	25	10
FT AND/OR	07	13	21	15	16	33	40	51	56	47	40	19	20	31	10
VISIBILITY	10	10	17	6	11	23	27	33	28	30	26	13	16	20	10
LESS 3 MI	13	10	10	6	5	16	17	21	18	20	17	9	14	14	10
	16	6	12	6	6	12	11	14	14	16	16	9	11	11	10
	19	8	11	4	9	15	18	17	23	22	19	8	13	14	10
	22	9	13	6	10	17	21	22	31	24	24	16	17	16	10
	ALL HRS	10	14	7	10	21	25	29	33	29	25	13	16	19	10
CEILING	01	4	7	4	7	9	11	17	18	14	17	9	7	10	10
LESS 500	04	5	7	3	7	9	14	22	22	21	16	8	7	12	10
FT AND/OR	07	4	8	4	8	8	13	24	25	22	20	7	9	13	10
VISIBILITY	10	3	4	2	1	4	5	7	5	6	7	4	5	4	10
LESS 1 MI	13	3	3	1	1	2	3	2	2	2	4	1	2	2	10
	16	2	4	1	1	3	3	3	2	2	5	1	4	3	10
	19	4	4	1	3	5	4	6	5	5	8	4	4	4	10
	22	4	6	1	4	6	7	11	10	7	13	5	7	7	10
	ALL HRS	4	5	2	4	6	8	12	11	10	11	5	6	7	10
CEILING	01	1	2	0	2	0	2	2	2	3	6	4	5	2	10
LESS 100	04	1	4	1	2	1	2	4	3	5	8	4	4	3	10
FT AND/OR	07	1	4	2	2	1	2	2	4	6	11	4	5	4	10
VISIBILITY	10	0	1	0	0	0	0	1	0	0	0	1	1	0	10
LESS 1/4 MI	13	0	0	0	0	0	0	0	0	0	0	0	0	0	10
	16	1	0	0	0	0	0	0	0	0	0	0	2	0	10
	19	1	0	0	0	0	0	1	0	0	1	1	1	0	10
	22	2	2	1	0	0	2	2	1	0	5	4	3	2	10
	ALL HRS	1	2	0	1	0	1	1	1	2	4	2	3	2	10

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PREPARED BY: NOCD ASHEVILLE       STATION NAME: SAN CLEMENTE ISLAND, CALIFORNIA       PERIOD: APR 63-DEC 82        STN LTRS: KNUC
SEPTEMBER     1983                LOCATION     : N33 01 W118 35                       ELEV  :        168           WBAN #   : 93117
                                                                                                                   WMO #    :
                                                                   VAP
                                                                    P                            MEAN NUMBER OF DAYS  OCCURRENCE OF:
                                                                    R                                                T    V
                                                                    E                                                H    S
                                                                    S                     MEAN PRECIP                US   B
  TEMPERATURE DEG F     PRECIPITATION  INCHES   SNOWFALL RELATIVE   S DEW PRESS SFC WINDS   AMT  INCHES   SNOWFALL  NT    Y  MAX          MIN
       MEAN   EXTREMES   M O N T H        MAX   MN MAX MAX  HUM    IN PT   ALT PVLG  SPEED  CLD  .01 .5   .1  1.5  DM   FOG DEG  F  :  ANC
   DAILY  MON                              24           24   LST    OF DEG FEET DRCTN MN MAX IN   OR  OR   OR  OR   ES    <   >    >    < <
   MAX MIN       MAX   MIN   MEAN   MAX   MIN   HRS           HR  04 13  HG  F 99.95%      KNOTS TENTH GTR GTR GTR GTR   S  7MI  90   75   65 40
JAN 62  50  56  84   36   1.8    4.5   .0   1.4   0   0   0  84 68  .34 48   400  WNW   6  41   5    7   1   0   0    0  10    0   1   31  6
FEB 62  51  57  80   40   1.2    4.1    #   1.9   0   0   0  87 70  .36 50   400  WNW   6  46   5    5   1   0   0    0   9    0   #   28  3
MAR 62  51  57  87   39   1.2    3.9    #   1.6   0   0   0  85 67  .35 49   450  WNW   6  44   5    5   1   0   0    #   9    0   1   31  2
APR 64  52  58  85   43    .5    2.7    #   2.0   0   0   0  85 64  .35 49   350   W    7  45   5    3   #   0   0    #   6    0   1   30  1
MAY 64  54  60  94   44    .2    1.7    #   1.1   0   0   0  86 67  .39 52   350   W    7  43   7    1   #   0   0    #  10    #   1   31  #
JUN 67  57  62 101   52     #     .3   .0    .2   0   0   0  88 68  .44 55   400   W    7  31   6    1   0   0   0    0  12    #   2   30  0
JUL 69  60  65  86   57     #     .4   .0    .4   0   0   0  89 70  .49 59   350   W    6  28   7    #   0   0   0    #  13    0   3   30  0
AUG 71  62  67  85   55    .1    2.5   .0   2.0   0   0   0  89 69  .50 59   400   W    6  28   7    #   #   0   0    #  10    0   6   28  0
SEP 71  61  66 102   53    .3    2.0   .0   1.9   0   0   0  89 70  .50 59   400   W    5  29   7    1   #   0   0    #  10    1   5   28  0
OCT 70  58  64  94   44    .1     .3    #    .3   0   0   0  88 67  .45 56   350   W    6  41   5    1   0   0   0    #  12    #   4   31  #
NOV 66  54  60  90   41   1.0    5.3    #   1.4   #   #   #  85 67  .39 52   400   W    6  40   5    4   1   0   0    #  10    #   1   30  1
DEC 63  51  57  79   38    .8    3.1   .1   1.7   #   #   #  86 67  .35 49   350   W    5  44   5    4   #   0   0    #  12    0   #   31  4
ANN 66  55  61 102   36   7.2    5.3   .0   2.0   #   #   #  87 68  .40 53   450   W    6  46   6   32   4   0   0    # 122    1  25  359 17
EYR 20  20  20  20   20    20     20   20    20  20  20  20  10 10  10 10    10   10   10  20  10   20  20  20  20   17  17   20  20   20 20
REMARKS: *DATA NOT AVAILABLE. # LESS THAN 0.5DAY,0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE.
         THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES IT IS EXCEEDED ONLY 0.05% OF THE TIME.
         EYR MEANS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE
         COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).

FLYING WEA % HRS LST   JAN    FEB    MAR    APR    MAY    JUN    JUL    AUG    SEP    OCT    NOV    DEC    ANN    EYR
 CEILING        01      29     29     31     37     41     59     69     69     59     44     35     26     45      9
 LESS 5000      04      32     36     28     43     66     64     76     78     62     47     32     30     50      9
 FT AND/OR      07      32     37     37     48     68     71     79     79     69     49     34     36     53     10
 VISIBILITY     10      28     35     34     37     60     55     60     65     57     44     30     28     44     10
 LESS 5 MI      13      30     28     28     30     47     46     42     44     46     33     26     25     35     10
                16      29     29     25     29     49     47     47     44     44     34     24     25     35     10
                19      27     28     28     33     52     49     60     61     54     39     26     25     36     10
                22      25     29     27     32     56     54     63     62     51     40     27     25     40      9
           ALL HRS      29     31     30     36     57     56     62     63     55     41     29     28     43     10

 CEILING        01      25     25     27     35     58     57     67     67     56     41     26     22     42      9
 LESS 3000      04      27     31     24     37     62     62     74     77     59     43     28     27     46      9
 FT AND/OR      07      27     31     30     41     62     67     78     78     66     46     28     30     49     10
 VISIBILITY     10      24     26     30     32     54     52     57     61     53     40     25     23     40     10
 LESS 3 MI      13      25     22     24     23     42     44     39     42     40     29     20     20     31     10
                16      23     24     21     25     45     45     45     43     41     31     19     20     32     10
                19      22     24     24     30     49     47     59     60     52     37     24     20     37      9
                22      19     24     23     30     52     53     62     60     48     36     24     20     36      9
           ALL HRS      24     26     25     32     53     53     60     61     52     38     24     23     39     10

 CEILING        01      15     16      8     15     24     31     48     44     32     25     17     14     24      9
 LESS 1000      04      17     18      5     15     25     34     54     50     37     26     17     16     26      9
 FT AND/OR      07      16     17      6     14     24     34     50     43     38     26     15     15     25     10
 VISIBILITY     10      11     13      9     11     16     21     29     26     25     18     10     12     17     10
 LESS 3 MI      13      11     11      5      7     12     15     19     17     16     15     10     10     12     10
                16      14     14      6      8     15     21     24     20     21     17      9     11     15     10
                19      15     15      6     11     20     25     35     33     29     23     13     12     20      9
                22      12     16      6     12     20     30     43     41     24     21     14     11     21      9
           ALL HRS      14     15      6     12     20     26     37     34     28     21     13     13     20     10

 CEILING        01       5      8      2      3      4      6      8      3      3      6      6      5      5      9
 LESS 400       04       8      8      2      2      4      6      7      6      6      5      6      6      6      9
 FT AND/OR      07       7      7      2      2      5      5      7      4      4      6      4      5      5     10
 VISIBILITY     10       4      4      1      1      1      1      1      2      1      1      3      3      2     10
 LESS 1 MI      13       2      4      0      0      1      0      1      1      1      2      0      1      1     10
                16       4      4      1      1      1      0      0      1      1      3      2      2      2     10
                19       5      8      1      2      1      3      2      1      3      6      5      4      3      9
                22       4      6      1      2      3      4      7      3      3      6      5      4      4      9
           ALL HRS       5      6      1      2      2      3      4      3      3      5      4      4      4     10

 CEILING        01       4      5      1      2      1      2      2      1      1      3      3      4      2      9
 LESS 200       04       5      4      1      1      1      3      2      2      3      3      4      5      3      9
 FT AND/OR      07       4      4      1      1      3      2      2      2      1      3      2      4      2     10
 VISIBILITY     10       3      3      0      1      0      0      0      0      1      1      0      3      1     10
 LESS 3/4 MI    13       1      1      0      0      0      0      0      0      0      1      0      1      0     10
                16       3      3      1      0      0      0      0      0      1      2      2      2      1     10
                19       4      5      0      1      0      1      1      1      0      3      2      2      1     10
                22       3      4      0      1      1      2      3      1      1      3      2      3      2      9
           ALL HRS       4      4      1      1      1      1      1      1      1      2      2      3      2     10
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PREPARED BY: NOCD ASHEVILLE      STATION NAME: SAN DIEGO, CALIFORNIA          PERIOD: APR 45-DEC 83          STN LTR: KNZY
SEPTEMBER    1983                LOCATION    : N32 42 W117 12                 ELEV  :       24               WBAN # : 93112
                                                                                                             WMO #  :
                                                                  VAR
                                                                   O                    MEAN NUMBER OF DAYS OCCURRENCE OF:
                                                                   P                                         T    M
                                                                   S                                         H    E
                                                                   U                    MEAN SNOW            U    A
 TEMPERATURE DEG F     PRECIPITATION  INCHES   SNOWFALL RELATIVE   P DEW PRESS SFC WINDS   AMT  INCHES  SNOWFALL N  V    MAX        MIN
      MEAN   EXTREMES   M O N T H        MAX   MO MAX MAX  HUM     IN PT   ALT PVLT SPEED  CLD  .01 .5  .1  1.5 D  FOG  
  DAILY  MTH                             24           24   LST     OF DEG FEET DRCTN MN MAX IN  OR  OR  OR  OR  
  MAX MIN      MAX  MIN  MEAN   MAX  MIN HRS           HR  04 13   HG  F 99.95%       KNOTS TENTH GTR GTR GTR GTR
JAN 63  48  56  88  30  2.0   6.1   *  2.8   *   *   *  76 56  .30 45  250  NW   4 52  5   7   1            *   9       2  11
FEB 64  52  57  95  38  1.4   5.3   *  1.7   *   *   *  77 55  .32 47  250  NW   5 44  5   5   1            *   9       2
MAR 64  52  56  99  41  1.5   4.8   *  1.7   *   *   *  76 59  .32 47  300  W    6 52  5   6   1            1   7       1  11
APR 66  55  60  99  44   .6   2.9   *  1.1   0   0   0  75 57  .35 49  300  W    6 63  5   4   *            *   6       2
MAY 67  58  63  95  47   .2   1.3   *  1.0   0   0   0  77 63  .40 53  300  W    6 73  7   2   *            *   6   *   2  24
JUN 69  61  65 100  54    *    .4  .0   .3   0   0   0  79 62  .45 56  250  W    6 71  7   1                *   7   *      17
JUL 73  64  69  94  57   .0    .1  .0   .1   0   0   0  81 64  .52 60  300  NW   5 24  6   *   0            *   7   *  11   4
AUG 75  66  71  92  57   .1   2.0  .0  1.5   0   0   0  82 66  .56 62  250  NW   6 31  6   *   *            *   6   *  15
SEP 75  64  72 105  54   .1   1.4  .0  1.2   0   0   0  82 64  .54 61  300  NW   5 35  6   1   *            *  10   1  12
OCT 72  60  66 106  42   .3   2.5   *   .7   0   0   0  79 60  .45 56  300  NW   5 54  5   1   *            *  12   1   7  14   *
NOV 68  54  61  95  40  1.1   5.7  .0  1.6   0   0   0  74 53  .34 49  250  NNW  4 61  4   4   1            *  11   *       6   1
DEC 64  49  57  87  37  1.7   5.6   *  2.6   T   *   *  72 50  .29 44  250  NW   4 41  5   5   1            *  11       2  11
ANN 68  57  63 108  30  8.4   6.1  .0  2.8   T   *   *  76 59  .39 52  300  NW   5 43  5  33   5            1 107       64
EYR 38  38  36  38  38   38    38  38   38  38  39  36  10 10  10 10   10  10  10 36 10 36  36  35  36      36  35  38  36  36  36
REMARKS: *DATA NOT AVAILABLE. * LESS THAN 0.5DAY,0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE.
           THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES IT IS EXCEEDED ONLY 0.05% OF THE TIME.
           EYR MEANS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE
           COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).


FLYING WEA % HRS LST   JAN     FEB     MAR     APR     MAY     JUN     JUL     AUG     SEP     OCT     NOV     DEC     ANN     EYR
 CEILING          01    34      39      39      48      66      66      61      66      60      50      33      42      51      10
 LESS 5000        04    31      37      41      49      76      77      77      79      68      54      37      37      56      10
 FT AND/OR        07    35      38      40      50      75      75      81      85      71      60      34      37      57      10
 VISIBILITY       10    27      32      36      32      56      45      41      41      46      44      27      27      36      10
 LESS 5 MI        13    25      21      23      15      35      26      20      16      27      26      16      21      23      10
                  16    24      24      22      17      36      32      16      15      21      24      19      25      23      10
                  19    23      29      25      29      53      40      25      28      35      31      25      29      32      10
                  22    33      33      29      35      59      53      39      44      48      42      34      38      41      10
             ALL HRS    29      31      32      34      59      52      45      47      47      42      29      32      40      10

 CEILING          01    22      31      25      40      62      66      61      65      56      47      29      32      45      10
 LESS 3000        04    21      29      30      42      69      74      76      77      63      50      27      26      49      10
 FT AND/OR        07    25      31      29      41      69      70      77      80      64      50      26      24      49      10
 VISIBILITY       10    17      21      22      21      40      37      37      33      31      25      16      14      27      10
 LESS 3 MI        13    14      12      13       8      25      22      13      11      19      15      10      11      14      10
                  16    12      14      13      11      27      28      12      12      16      16      11      14      16      10
                  19    17      18      16      20      45      38      25      26      30      24      18      20      25      10
                  22    19      24      17      26      51      51      38      43      44      34      25      27      33      10
             ALL HRS    16      22      20      26      48      45      42      43      41      32      21      22      32      10

 CEILING          01     9      15       7       7      14      27      29      27      19      25      14      22      18      10
 LESS 1000        04    10      17       7       8      16      34      44      36      27      27      14      17      21      10
 FT AND/OR        07    11      17       7       9      15      30      36      33      29      20      16      16      20      10
 VISIBILITY       10     6      10       3       3       7      11      16       9       6       8       7       6       8      10
 LESS 3 MI        13     3       3       2       1       3       2       5       4       5       4       4       4       4      10
                  16     5       6       2       1       4       6       4       3       5       6       5       6       4      10
                  19     6       8       2       2       7       9       7       6       9       9       7      10       7      10
                  22     7      12       2       2      11      17      17      11      11      14      12      16      11      10
             ALL HRS     7      11       4       4      10      17      20      16      14      15      10      12      12      10

 CEILING          01     3       5       2       1       1       2       0       1       2       4       5      11       3      10
 LESS 500         04     2       7       3       1       3       3       1       3       4       4       5      10       4      10
 FT AND/OR        07     3       8       3       2       2       3       2       4       6       7       4       7       4      10
 VISIBILITY       10     1       1       1       0       0       0       0       0       0       1       1       1       1      10
 LESS 1 MI        13     0       0       0       0       0       0       0       0       0       1       0       2       1      10
                  16     0       1       0       0       0       0       0       0       0       0       1       1       0      10
                  19     2       2       0       0       0       1       0       0       1               1       3       1      10
                  22     3       5       1       0       1       1       0       0       1       1       3       4       2      10
             ALL HRS     2       4       1       1       1       1       0       1       2       3       3       5       2      10

 CEILING          01     3       4       2       0       1       1       0       1       2       5       4       9       3      10
 LESS 200         04     3       5       2       0       2       2       1       2       2       6       4       8       3      10
 FT AND/OR        07     2       5       2       1       1       1       1       2       3       3       3       6       3      10
 VISIBILITY       10     0       0       0       0       0       0       0       0       0               1       0       0      10
 LESS 1/2 MI      13     0       0       0       0       0       0       0       0       0               0       1       0      10
                  16     0       0       0       0       0       0       0       0       0               0       0       0      10
                  19     2       1       0       0       0       0       0       0       0       0       0       2       0      10
                  22     2       3       1       0       1       0       0       0       1       1       2       6       1      10
             ALL HRS     1       2       1       0       1       1       0       1       1       2       2       4       1      10
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PREPARED BY: NOCD ASHEVILLE      STATION NAME: SAN NICOLAS ISLAND,CALIFORNIA        PERIOD: APR 45-DEC 80           STN NUMBER: [illegible]
SEPTEMBER    1983                LOCATION    : N33 15 W119 27                       ELEV  :       [illegible]       [illegible]
                                                                                                                    [illegible]
                                                                    VAP
                                                                     P                       MEAN NUMBER OF DAYS OCCURRENCE OF:
                                                                     R                                         T     V
                                                                     E
                                                                     S                 MEAN PRECIP
  TEMPERATURE DEG F      PRECIPITATION  INCHES   SNOWFALL RELATIVE   S DEW PRESS SFC WINDS   AMT  INCHES  SNOWFALL
        MEAN   EXTREMES   M O N T H        MAX  MN MAX MAX  HUM     IN PT   ALT PVLG  SPEED  CLD  .01 .5   .1  1.5
    DAILY  MON                              24          24   LST    OF DEG FEET DRCTN MN MAX IN   OR  OR  OR  OR
    MAX MIN       MAX   MIN   MEAN    MAX  MIN  HRS          HR  07 13  HG  F 99.95%      KNOTS TENTH GTR GTR GTR GTR
JAN 60  47   54   83    33    1.8     7.4   .0  2.0   *   #  1  76 63  .30 45   800   NW   8  52  5    7   1   0        0   8  0  1  21
FEB 61  48   55   83    37    1.5     6.2   .1  2.0   0   0  0  82 67  .32 47   800   NW   9  44  6    6   1   0        0  10  0  1  24
MAR 61  48   55   83    34    1.2     4.0   #   1.3   0   0  0  81 66  .32 47   850   NW  11  54  6    6   1   0        0  11  0  1  31
APR 63  49   56   96    38     .5     2.7   #    .7   #   #  #  90 63  .32 47   750   NW  11  56  5    3   #   0        #   9  #  2
MAY 64  51   58  100    41     .1     1.6   #    .9   0   0  0  92 65  .36 50   750   NW  10  56  7    1   #   0        0  14  #  2  31  #
JUN 67  54   61  100    41     #       .2   .0   .1   0   0  0  90 63  .39 52   750   NW  10  52  7    1   0   0        #  12  #  3  30  #
JUL 70  56   63   92    42     #       .1   .0   .1   0   0  0  89 67  .45 56   750   NW   9  45  5    #   0            0  14  #  5  31
AUG 71  57   64   95    47     #       .8   .0   .8   0   0  0  89 68  .49 58   750   NW   9  41  5    #   #   0   0    0  17  #  7  31
SEP 72  57   65  103    46     .2     2.2   .0  1.7   0   0  0  85 65  .45 56   800   NW   8  47  6    1   #   0   0    #  15  1  7
OCT 70  55   63  100    40     .1      .7   .0   .4   0   0  0  82 60  .40 53   750   NW   6  53  3    2   0   0   0    0  10  1  7      #
NOV 66  52   59   89    38    1.2     5.6   #   2.6   0   0  0  75 59  .34 48   800   NW   8  52  4    5   1   0   0    0  12  0  3  30  #
DEC 61  48   55   87    35    1.3     4.6   #   1.6   0   0  0  73 60  .30 45   750   NW   7  55  4    6   1   0   0    0  13  0  1  31
ANN 65  52   59  103    33    7.9     7.4   .0  2.6   *   #  1  82 64  .36 50   800   NW   9  64  5   35   5   0   0    # 147  ?  40
EYR 25  25   25   25    25     24      24   24   24  24  24 24  10 10   10 10    10   10  10  22 10   24  24  24  24   19  19 25 25
REMARKS: *DATA NOT AVAILABLE. # LESS THAN 0.5DAY,0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE.
          THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES IT IS EXCEEDED ONLY 0.05% OF THE TIME.
          EYR MEANS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE
          COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).


FLYING WEA % HRS LST   JAN     FEB     MAR     APR     MAY     JUN     JUL     AUG     SEP     OCT     NOV     DEC     ANN     EYR
 CEILING          01                                                                                                           0
 LESS 5000        04                                                                                                           0
 FT AND/OR        07    30      28      43      38      57      57      68      73      61      42      26      27      46     10
 VISIBILITY       10    26      26      26      29      41      42      46      47      49      32      21      24      35     10
 LESS 5 MI        13    24      25      23      17      30      25      22      23      29      19      16      16      22     10
                  16    20      23      25      17      25      22      11      20      27      17      15      20      20     10
                  19                                                                                                           0
                  22                                                                                                           0
             ALL HRS    25      26      29      25      40      37      38      42      42      28      19      21      31     10

 CEILING          01                                                                                                           0
 LESS 3000        04                                                                                                           0
 FT AND/OR        07    26      24      36      33      54      55      66      69      55      35      21      24      42     10
 VISIBILITY       10    24      23      21      24      46      39      42      45      43      26      16      21      31     10
 LESS 3 MI        13    21      22      19      14      27      23      17      21      24      13      12      13      19     10
                  16    17      18      20      15      24      21       9      16      23      12      12      15      17     10
                  19                                                                                                           0
                  22                                                                                                           0
             ALL HRS    22      22      24      22      38      35      35      39      37      22      15      18      27     10

 CEILING          01                                                                                                           0
 LESS 1000        04                                                                                                           0
 FT AND/OR        07    18      19      19      23      40      47      50      56      40      26      15      17      32     10
 VISIBILITY       10    13      17      12      12      28      25      32      28      26      15      10      15      19     10
 LESS 3 MI        13    11      14       9       5      10      11       9      10      12       6       6       8       9     10
                  16    13      13       7       7      10      11       4      10      13       7       8       9       9     10
                  19                                                                                                           0
                  22                                                                                                           0
             ALL HRS    14      16      12      12      23      24      27      27      23      14      10      12      19     10

 CEILING          01                                                                                                           0
 LESS 300         04                                                                                                           0
 FT AND/OR        07    10       9       9      10      13      16      26      23      19      16       9       9      14     10
 VISIBILITY       10     5       7       5       2       4       4       5       2       4       4       3       7       4     10
 LESS 1 MI        13     4       4       4       1       1       0       0       1       2       1       2       4       2     10
                  16     4       7       2       1       1       0       0       1       3       1       3       4       2     10
                  19                                                                                                           0
                  22                                                                                                           0
             ALL HRS     6       7       5       4       5       6       9       7       7       6       4       6       6     10

 CEILING          01                                                                                                           0
 LESS 100         04                                                                                                           0
 FT AND/OR        07     5       7       6       6       7       9      16      10       9      11       4       7       8     10
 VISIBILITY       10     3       4       3       1       1       1       1       2       2       0       1       4       2     10
 LESS 1/2 MI      13     3       4       2       0       0       0       0       0       1       0       1       3       1     10
                  16     2       5       1       0       0       0       0       0       1       0       2       2       1     10
                  19                                                                                                           0
                  22                                                                                                           0
             ALL HRS     3       5       3       2       2       3       5       3       4       3       2       4       3     10
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PREPARED BY: NOCC ASHEVILLE        STATION NAME: SANTA ANA, CALIFORNIA                 PERIOD: MAR 49-DEC 67
SEPTEMBER    1967                  LOCATION    N33 42 W117 50                          ELEV    54

  TEMPERATURE DEG F      PRECIPITATION  INCHES     SNOWFALL RELATIVE   STN PRESS  SFC WINDS   MEAN  PRECIP    SNOWFALL
     MEAN   EXTREMES                                        HUM                                    AMT
  DAILY   MON                                                                                     
   MAX MIN       MAX  MIN   MEAN   MAX   MIN   24 HRS
JAN 66  44  55   92   28    2.6    7.9   .0    2.6     .  .  .    91 54  .29 44         4  57   5    7   2           1  17   3   4  19   2
FEB 67  45  57   87   29    2.7    7.2   *     2.2                92 55  .71 46   750   W5W  4  53   5    6   2           1  17   .   4  14   1
MAR 67  47  57   92   31    2.0    5.5   *     1.5                93 56  .32 47   750   W5W  4  42   5    7   1           1  17   *   4  12   *
APR 69  49  64   96   34     .7    4.1   *     1.3                83 52  .54 48   250   W5W  4  45   5    4   *           *   9   *   6   4   0
MAY 71  54  63  102   38     .2    2.6   *     2.0                93 57  .40 53   250   W5W  4  40   6    2   *           *  13   1   7   3   0
JUN 76  58  67  107   42     .1     .5   *      .5                86 55  .45 58         W5W  4  29   5    2   *           *  14   1  15   *   0
JUL 80  61  71  104   45     *      .2   .0     .2                86 56  .54 61         W5W  4  27   4    *   0           *  17   1  28   *   0
AUG 82  63  73  110   48     .2    1.7   .0    1.2                85 56  .56 62         W5W  3  31   4    *   *           *  15   2  30   0   0
SEP 82  61  72  112   44     .4    2.5   *     1.7                84 55  .53 60   750   W5W  3  40   5    *   *           1  14   3  25   *   0
OCT 77  54  65   99   37     .5     .6   *      .4                91 51  .42 54   250   W5W  3  40   5    .   3           1  15   2  14   3   *
NOV 72  47  60   95   32    1.2    4.3   .0    3.1                79 46  .31 46         W    3  55   4    4   1           1  13   *  10  17   *
DEC 67  43  55   93   28    1.6    3.8   .3    2.3                78 48  .25 43   250   *    3  59   5        1   0       *  13   *   5  21   1
ANN 73  52  63  112   28   11.5    7.9   .0    3.1    *  *  *     93 57  .39 52   750   W5W  3  59   5    4   7   0       4 161  12 156  92   4
EYR 19  19  19   19   19     19     19   19     19  17 18 16      19 19  19 19    19    19  19 19  19    19  19 16 14    18  18  19  19  19 19
REMARKS: *DATA NOT AVAILABLE. * LESS THAN 0.5 DAY, 0.05 OR 0.005 INCH, OR 0.5 PERCENT AS APPLICABLE.
         THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES IT IS EXCEEDED ONLY 0.05% OF THE TIME.
         EYR MEANS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE
         COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).
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FLYING WEA & HRS LST		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	EYR
CEILING	01	32	28	32	36	57	50	44	44	46	47	34	38	41	10
LESS 5000	04	37	38	36	43	66	64	40	66	61	52	34	37	50	10
FT AND/OR	07	36	39	42	42	74	70	71	74	68	59	35	40	54	10
VISIBILITY	10	36	44	43	44	64	49	34	50	61	57	35	40	46	10
LESS 5 MI	13	36	39	34	35	37	27	14	20	33	41	31	40	31	10
	16	29	26	26	19	37	15	6	6	24	37	23	32	22	10
	19	26	24	23	20	32	21	6	11	26	24	24	29	22	10
	22	31	27	37	29	44	35	22	24	33	33	31	33	31	10
	ALL HRS	33	33	33	33	50	42	32	37	44	43	32	36	33	10
CEILING	01	19	24	23	28	51	49	41	38	40	36	24	27	33	10
LESS 3000	04	25	29	25	36	60	60	59	62	56	46	30	31	43	10
FT AND/OR	07	26	32	26	34	60	63	61	67	59	50	25	32	45	10
VISIBILITY	10	22	26	27	30	49	37	15	29	41	42	24	30	31	10
LESS 3 MI	13	21	23	20	24	23	15	5	6	15	21	16	24	17	10
	16	17	16	15	11	17	9	2	2	9	11	11	16	12	10
	19	16	13	13	10	22	14	4	6	16	13	12	15	13	10
	22	20	18	17	20	35	31	16	20	26	23	19	23	22	10
	ALL HRS	21	23	21	23	40	35	25	28	32	30	20	25	27	10
CEILING	01	8	12	4	6	10	10	11	8	6	18	13	18	11	10
LESS 1000	04	11	15	6	11	14	23	20	22	18	24	17	20	17	10
FT AND/OR	07	15	18	9	11	17	26	25	33	30	32	18	23	21	10
VISIBILITY	10	12	13	6	5	9	12	6	13	17	26	16	20	13	10
LESS 3 MI	13	9	9	4	1	3	2	3	3	6	14	13	15	7	10
	16	6	6	2	1	1	1	1	1	3	6	6	11	4	10
	19	4	6	2	2	3	2	1	1	3	7	5	9	4	10
	22	6	8	2	2	7	5	2	2	4	16	9	15	6	10
	ALL HRS	9	11	4	5	6	10	8	10	11	17	12	16	10	10
CEILING	01	2	5	2	2	2	2	1	0	2	7	5	7	3	10
LESS 500	04	4	7	1	4	4	4	4	5	5	14	8	10	6	10
FT AND/OR	07	7	8	4	5	2	4	3	6	6	14	9	10	7	10
VISIBILITY	10	4	4	0	0	0	0	0	1	0	0	3	7	2	10
LESS 1/2 MI	13	0	0	0	0	0	0	0	0	0	0	1	0	0	10
	16	0	0	0	0	0	0	0	0	0	0	0	1	0	10
	19	1	1	0	0	0	0	0	0	0	0	1	1	0	10
	22	2	2	0	0	0	0	0	0	0	3	1	4	1	10
	ALL HRS	3	3	1	1	1	1	1	2	2	5	4	5	2	10
CEILING	01	2	4	1	1	1	1	0	0	1	7	5	7	3	10
LESS 400	04	4	7	1	4	3	3	2	4	5	13	6	10	5	10
FT AND/OR	07	6	8	4	3	2	1	2	3	5	13	8	10	5	10
VISIBILITY	10	3	3	0	0	0	0	0	0	0	0	2	6	1	10
LESS 1/2 MI	13	0	0	0	0	0	0	0	0	0	0	1	0	0	10
	16	0	0	0	0	0	0	0	0	0	0	0	0	0	10
	19	1	1	0	0	0	0	0	0	0	0	1	1	0	10
	22	1	1	0	0	0	0	0	0	0	3	1	4	1	10
	ALL HRS	2	3	1	1	1	1	1	1	1	5	3	5	2	10

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PREPARED BY: NCDC ASHEVILLE      STATION NAME: VANDENBERG AFB, CALIFORNIA        PERIOD: JUN [illegible]
SEPTEMBER    1983                LOCATION    : N34 43 W120 34                    ELEV  :     368

                                                              VAP
                                                               P                              MEAN NUMBER OF DAYS [illegible]
                                                               R
                                                               E
                                                               S                   MEAN PRECIP
 TEMPERATURE DEG F      PRECIPITATION  INCHES    SNOWFALL RELATIVE  S DEW PRESS SFC WINDS   AMT  INCHES  SNOWFALL
       MEAN   EXTREMES    M O N T H      MAX   MN MAX MAX   HUM     IN PT   ALT PVLG  SPEED  CLD  .01 .5   .1  1.5
   DAILY  MON                            24            24   LST     OF DEG FEET PRDIR MN MAX IN   OR  OR   OR  OR
  MAX MIN       MAX  MIN  MEAN   MAX  MIN HRS            HR 07 13   HG  F 99.95%      KNOTS TENTH GTR GTR GTR GTR
JAN 61  44  53  83  25   2.4   9.3  .0  2.7   *  2  1  76 60  .27 42  700 ESE  6 49  6   7  1  #  0
FEB 61  45  53  93  31   2.5   9.2  .1  2.5   0  0  0  81 63  .30 45  700  NW  7 41  6   7  1  0  0
MAR 60  47  54  87  37   1.9   5.7   #  2.2   0  0  0  84 64  .30 45  700  NW  8 40  7   7  1  0  0
APR 61  48  55  90  36   1.0   4.6   #  1.5   0  0  0  82 63  .31 46  550  NW  8 40  6   5  1  0  0
MAY 61  50  56  93  39    .2   2.7   #  2.2   0  0  0  82 67  .34 48  600  NW  7 35  7   3  #  0  0
JUN 63  52  58  98  47    .1    .3   #   .2   0  0  0  84 69  .37 51  550  NW  7 35  7
JUL 65  53  59  95  45     #    .1   #   .1   0  0  0  89 71  .40 53  550  NW  6 37  7
AUG 66  54  60  96  45    .1   1.0  .0   .9   0  0  0  89 69  .40 53  550  NW  5 32  8   2  0  0  0
SEP 68  54  61 100  47    .2   2.3  .0  1.7   0  0  0  86 69  .42 54  600  NW  5 33  6   2  0  0  0
OCT 69  52  61  99  35    .7   2.6  .0  1.5   0  0  0  81 63  .37 51  550  NW  5 36  6   2  #  0  0
NOV 65  49  57  87  32   2.0   6.3  .0  1.5   0  0  0  76 56  .31 46  600  NW  7 52  6   6  1  0  0
DEC 62  45  54  87  26   1.9   5.5  .2  3.0   0  0  0  76 54  .28 43  650  NW  7 44  6   7  1  0  0
ANN 63  50  57 100  25  17.2   9.3  .0  3.0   *  2  1  82 64  .34 48  650  NW  7 52  6  52  6  #  0
EYR 25  25  25  25  25    25    25  25   25   2 25 25  10 10  10 10   10  10 10 20 10  25 25 25 25
REMARKS: *DATA NOT AVAILABLE. # LESS THAN 0.5DAY,0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE.
         THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES IT IS EXCEEDED ONLY 0.05% OF THE TIME.
         EYR MEAN: EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE
         COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).
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FLYING WEA & HRS LST		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	EYR
CEILING	01														0
LESS 5000	04														0
FT AND/OR	07	33	36	51	45	67	72	85	90	72	47	35	24	54	9
VISIBILITY	10	26	31	32	29	49	47	55	57	47	30	17	18	37	10
LESS 5 MI	13	24	22	30	20	35	33	29	33	32	13	14	13	25	10
	16	25	28	27	26	36	42	43	46	41	27	20	21	32	10
	19	29	30	45	40	59	57	59	80	56	49	24	17	45	5
	22														0
	ALL HRS	26	29	34	31	50	50	55	61	52	32	19	16	34	10
CEILING	01														0
LESS 3000	04														0
FT AND/OR	07	24	30	44	39	65	69	85	87	68	44	22	14	49	9
VISIBILITY	10	19	20	20	24	47	44	52	54	43	27	13	14	31	10
LESS 3 MI	13	16	14	20	15	34	31	28	30	29	17	10	10	21	10
	16	20	20	19	23	37	39	43	45	38	25	17	15	28	10
	19	25	22	28	37	59	55	59	80	55	45	21	16	43	5
	22														0
	ALL HRS	20	20	25	26	49	48	54	59	46	30	16	14	34	10
CEILING	01														0
LESS 1500	04														0
FT AND/OR	07	18	17	22	29	59	63	83	86	60	39	13	10	40	9
VISIBILITY	10	5	10	11	15	37	36	51	53	36	21	9	10	25	10
LESS 3 MI	13	9	7	10	10	26	25	26	26	24	10	6	5	15	10
	16	8	10	10	16	32	36	42	42	35	21	15	12	23	10
	19	18	13	26	32	55	52	59	80	52	32	19	12	36	5
	22														0
	ALL HRS	11	11	13	20	42	43	53	56	41	23	12	10	26	10
CEILING	01														0
LESS 1000	04														0
FT AND/OR	07	13	13	15	24	48	55	91	92	56	34	12	6	37	9
VISIBILITY	10	7	6	6	12	24	27	44	45	29	17	7	9	19	10
LESS 2 MI	13	5	5	6	5	17	14	23	16	18	8	4	2	10	10
	16	6	8	5	10	18	23	34	35	29	17	11	8	17	10
	19	16	8	16	26	39	50	52	70	50	30	19	10	32	5
	22														0
	ALL HRS	9	7	8	15	30	33	46	50	36	19	9	7	23	10
CEILING	01														0
LESS 200	04														0
FT AND/OR	07	7	5	5	9	14	15	39	40	29	16	3	4	16	9
VISIBILITY	10	2	0	0	0	2	0	1	0	2	2	1	0	1	10
LESS 1/2 MI	13	0	0	0	0	0	0	0	0	0	0	0	1	0	10
	16	0	1	0	0	0	0	0	0	1	1	2	2	1	10
	19	10	0	3	6	2	7	9	6	14	14	6	4	7	5
	22														0
	ALL HRS	3	2	1	3	5	6	11	13	9	6	2	2	5	10

USCOMM-NOAA-ASHEVILLE, N.C. 12/83/475

END

FILMED

3-84

DTIC